INDEX OF SUBJECTS

ABSTRACTS A and B. 1927.

An asterisk denotes a previous abstract. Patents are marked (P.).

Abaca. See Hemp, Manila.

Abietic acid, purification of (DUPONT), (P.), B., 452.

Liebermann reaction for (SOHULZ and KRÄMER; STOCK), B., 19. Abrasives (Klein and Brown), (P.), B., 44.

Abrasive articles, manufacture of (MILLIGAN, QUICK, and NORTON

Co.), (P.), B., 779. Abrasive materials, flexible sheet (U.S. SAND PAPER Co. and Joseph), (P.), B., 300.

Absorptiometer, measurements with (TSCHUDI), A., 1049.

Absorption apparatus (SILICA GEL CORP. and KRULL), (P.), B., 688. refrigeration or heating (SIEMENS-SCHUCKERTWERKE), (P.), B.,

towers, hollow shapes for filling (Letschert), (P.), B., 207. tower, for hydrocarbons (KOBERNIK and NEWTON PROCESS Manuf. Co.), (P.), B., 181.

See also Gas absorption apparatus. Absorption spectra. See under Spectra.

Aburatsunozame. See Squalus wakiyæ.

Accumulators (LEITNER), (P.), B., 391, 392; (DEODATO), (P.), B., 493; (NEMETH and SZANTO), (P.), B., 850.

treatment of wooden casings for (Könic), (P.), B., 660. production of electrodes for (HAGSPILL), (P.), B., 416. prevention of electrode deformation in (LÜBECK), (P.), B., 339. electrolyte for (COMP. GÉN D'ÉLECTRICITÉ), (P.), B., 196.

manufacture of plates for (Williams), (P.), B., 416; (Haddon and Burnett), (P.), B., 786; (Fromont), (P.), B., 914.

pasted grid or plate for (HADDON and BURNETT), (P.), B., 705. heat. See under Heat.

lead, products in working of (MAZZA), B., 257, 659.

electrolyte for (BRENNER), (P.), B., 820. with pulpy electrolytes (Aletter and Strasser), (P.), B.,

583. action of iron in (LEA and CRENNELL), B., 528.

plates for (SIEG), (P.), B., 583.

wooden separators for (HUMBOLDT and PACIFIC LUMBER Co.; Wood), (P.), B., 607.

containing lead dioxide, zinc, and sulphuric acid (MIOLATI and LEPRESTRE), (P.), B., 786.

silver (JIRSA and SCHNEIDER), B., 449.

Acenaphthene (Dziewoński and Orzelski), A., 347.

and 3-chloro-, and its derivatives, and 3-chloro-4-hydroxy-(Dziewoński and Zahrzewska-Baranowska), A., 871.

derivatives (Ruggli and Jenny), A., 461.

compound of, with trinitro-m-cresol (Efremov and Tichomirova), A., 1182.

Acenaphthene series (Dziewoński, Galitzerówna, and Kocwa), A., 359.

Acenaphthenequinone, 3-chloro- (Dziewoński and Zahrzewska-Baranowska), A., 871.

Acenaphthenesulphonic acids, and amino- and nitro-, and their salts and derivatives (Dziewoński and Orzelski), A., 347.

5:6-Acenaphtho-3-amino-1:2:4-triazine, and its acetyl derivative (DE), A., 979.

Acenaphthpyridine, derivatives of (NAIR and SIMONSEN), A., 159. β -5-Acenaphthylaminocroton-5-acenaphthylamide (NAIR Simonsen), A., 159.

β-5-Acenaphthylaminocrotonic acid, ethyl ester (NAIR and Simonsen), A., 159.

Acenaphthyl benzyl ketone, and nitro-, and their derivatives (Rudgli and Jenny), A., 461.

3-Acenaphthyl ω-bromobenzyl ketone (Ruggli and Jenny), A.,

3-Acenaphthyl ω-hydroxybenzyl ketone, and its benzoyl derivative (Ruggli and Jenny), A., 461.

Acer pseudoplatanus, constituents of bark of (Zellner), A., 387.

allantoic acid in leaves of (Fosse and Hieulle), A., 1116. Acetals, manufacture of (Consortium für Elektrochem. Ind.), (P.), B., 379, 541.

affinity, reactivity, and structure of (Garrung and Adkins), A.,

Acetals, amino-, action of, on phenols (HINSBERG and MEYER),

Acetaldehyde, formation of, during fermentation (WHETHAM), A.,

manufacture of (Consortium für Elektrochem. Ind.), (P.), B., 541; (DREYFUS), (P.), B., 764; (CRAVER and BARRETT Co.), (P.), B., 796.

transformation of, to its enolic form (Scнoù), A., 751.

oxidation of (Young, HERRLY, and CARBIDE & CARBON CHEMI-CALS CORP.), (P.), B., 378.

by hydrogen peroxide (HATCHER and TOOLE), A., 425. reaction product of aniline and (CADWELL and NAUGATUCK CHEMICAL Co.), (P.), B., 460*.

condensation of, with aniline, in presence of aluminium oxide (TSCHITSCHIBABIN and OPARINA), A., 1086.

condensation of formaldehyde with (STEPANOV and STCHUKINA),

condensation of, with methyl n-propyl ketone (Colonge), A., 449.

enzymic transformation of (v. Euler and Myrbäck), A., 484.

rôle of, in animal metabolism (Briggs), A., 170. in cerebrospinal fluid (Thomas and Maftei), A., 1215.

cyclohexylhydrazone, and its hydrochloride (Busch and Linsen-MEIER), A., 455.

Acetamide, fused, conductivity of electrolytes in (Belladen). A., 831.

Acetamide, chloro-, action of, on 3:4-diaminophenylarsinic acid (EWINS, NEWBERY, and STICKINGS), A., 577.

Acetamides, substituted, preparation of (ERICKSON), A., 44. Acetisoamylamide (ERICKSON), A., 44.

Acetisoamylamide, amino-, and its salts, and chloro- (v. Braun and Münch), A., 344. Acetanilide, compound of, with propionanilide (GILBERT and

CLARKE), A., 1061.

Acetanilide, 3:4-diamino-, and 4-nitro-3-amino- (Kehrmann and MERMOD), A., 261.

2-bromo-4-amino-, 2:3:5-tribromo-4-amino-, and 4:6-diiodo-mamino- (NICOLET and SAMPEY; NICOLET and RAY), A., 869. o-chloro-p-amino-, preparation of (NIYOGY), A., 760. chlorodibromo- (SMITH), A., 644.

3:5-dichloro-2:4-dinitro- (Kohn and Pfeifer), A., 967.

3:4-diiodo- (Vecchiotti), A., 1098. nitro-, determination of (Semiganovsky), A., 1062.

thio-, compound of, with methyl iodide (DIELS and LICHTE), A., 162.

o-Acetanisidide, 3:5-dibromo-4:6-dinitro-, and 3:5:6-tribromo-4nitro- (Kohn and Karlin), A., 1182.

4-Acetatomercuri-3-chloroaniline (Vecchiotti), A., 1098.

Acetatomercuri-m-iodoaniline (Vecchiotti), A., 1098. Acetatovanadic selenates (MEYER and MARCOWICZ), A., 32. Acet-p-bromoanilide, dichloro- (v. Braun, Jostes, and Heymons),

Acet-n-butylamide (ERICKSON), A., 44.

Acetethylamide, amino-, and its salts (v. Braun and Münch), A., 344.

dibromo-, chlorodibromo-, and dichlorobromo- (v. BRAUN, JOSTES, and HEYMONS), A., 232.

Acetic acid, manufacture of (SUIDA), B., 123; (DREYFUS), (P.), B., 125, 268, 521.

and its salts, manufacture of (Synthetic Ammonia & Nitrates, and P. A. and H. G. SMITH), (P.), B., 571.

apparatus for production of, from acetaldehyde (Thorin and STOCKHOLMS SUPERFOSFAT FAB. AKT.), (P.), B., 59.

production of, from crude pyroligneous acid (Dependois), (P.), B., 701.

concentrated, preparation of, from dilute pyroligneous acid

(SUIDA), (P.), B., 316. concentration of (BADER and AMERICAN CELLULOSE & CHEMICAL MANUF. Co.), (P.), B., 108*; (SUIDA), (P.), B., 349*, 380*, 541.

purification of (Orton and Bradfield), A., 645.

conductivity of, in acctone (SATA), A., 113.

heat of ionisation of, in methyl alcohol (Wolfenden, Jackson, and Hartley), A., 733.

density of mixtures of benzene, toluene, and water with (Wood) MAN), A., 196.

catalytic chlorination of (Brückner), A., 959.

oxidation of, by hydrogen peroxide (HATCHER and HOLDEN), A., 425.

viscosity, conductivity, and specific volumes of solutions of stannic chloride in (STRANATHAN and STRONG), A., 1020. detection of, in lavender oil (LANGLAIS and GOBY), B., 92. determination of propionic acid in (BAUM), B., 616.

Acetic acid, aluminium salt, manufacture of (Chemnitius), B.,

388. water-soluble basic, preparation of (CHEM. FABR. GRÜNAU,

LANDSHOFF & MEYER and FRANKE), (P.), B., 459. barium and copper salts, reaction of nitroalizarin with (Lie-

PATOV), A., 732. calcium salt, distillation of (ARDAGH, BARBOUR, McCLELLAN,

and McBride), B., 73.

cobaltous salt, production of (l.G. FARBENIND, and CHEM. FABR. GRIESHEIM-ELEKTRON), (P.), B., 601; (I. G. FAR-BENIND.), (P.), B., 749*.

copper salt, electrolytic production of (PAVLOV and BROUNSE), A., 322.

europium salt (SARKAR), A., 325.

lead salt, production of (STERN), (P.), B., 965.

mercuric salt, reaction of acetylenic acids with (MYDDLETON, BERCHEM, and BARRETT), A., 1053.

silver salt, action of, on formates (Gurevitsch and Pokrov-SKAYA), A., 1167.

sodium salt, ionisation of (MEYER), A., 1140.

complex of mercuric chloride and (Bourson and Rouner),

zinc uranyl salt, use of, as reagent for sodium (Kolthoff), A., 436.

Acetic acid, esters, azeotropic mixtures with (Fucus), A., 617. influence of the alcohol component on hydrolysis of (SKRABAL and Hugerz), A., 27.

aminophenyl, methylaminophenyl, and p-benzylideneaminophenyl esters, and their salts (GALATIS), A., 763.

amyl ester, manufacture of, from natural gasoline (Koch and Burrell), B., 377.

isoamyl ester, preparation of (GAY, MION, and AUMERAS), A., 1053.

isobornyl ester, oxidation of, and ketoisobornyl ester, and its semicarbazones (IKEDA and FUJITA), A., 1196.

cetyl ester, behaviour of, in the body (MANCKE), A., 275. 3:5-dichloro-o-tolyl ester (Bureš), A., 554.

ethyl ester, effect of salts and other compounds on solubility of, in water (GLASSTONE, DIMOND, and JONES; GLASSTONE, DIMOND, and HARRIS), A., 14.

hydrolysis of (Dawson and Lowson), A., 1150.

with acetic acid as catalyst (Dawson and Lowson), A.,

by sodium hydroxide (TERRY and STIEGLITZ; GOOCH), A., 1036.

influence of various substances on hydrolysis of, in hydrochloric acid (Pana), A., 525.

Acetic acid, ethyl ester, condensations of (Scheibler and Mar-HENKEL), A., 1167.

ethyl and methyl esters, vapour pressure of mixtures of, with methyl alcohol (Bredig and Bayer), A., 1142.

glycogen and inulin esters, cryoscopic behaviour of (HESS and STAIIN), A., 752.

glyoxal ester, hydrolysis of (SKRABAL and GITSCHTHALER), A., 1036.

linally ester, in lavender oil (KAUFMANN and KJELSBERG), B.,

methyl ester, vapour pressures of mixtures of, with water and with water and sucrose (McKeown and Stowell), A., 206. viscosity of, above the boiling point (TITANI), A., 616.

oleyl ester (Andre and François), B., 706.

pentaerythritol ester, velocity of hydrolysis of (Skrabal and ZLATEVA), A., 27.

 $\Delta\beta$ -pentenyl, $\Delta\beta$ -hexenyl, and $\Delta\beta$ -heptenyl esters (Bours), A., $1\bar{0}51.$

phenyl ester, transformation of, to p-hydroxyacetophenone (MINAEV), A., 770.

and chloro-derivatives, van der Waals' constants for (Weissen-BERGER and HENKE), A., 111.

polyvinyl ester (Staudinger, Frey, and Starok), A., 1051. triphenylpropargyl ester (Moureu, Dufraisse, and Houch-TON), A., 355.

vinyl ester, manufacture of (Skirrow, Herzberg, and Canadian ELECTRO PRODUCTS Co.), (P.), B., 859.

kinetics of hydrolysis of (SKRABAL and ZAHORKA), A., 1148. Acetic acid, amino-, complex salts of, and their optical absorption

(LEY), A., 1009. bromo-, di- and tri-chloro-, and chlorobromo-, derivatives of (v. Braun, Jostes, and Munch), A., 548.

chloro-, formation of glycine from (SAPOJNIKOVA), A., 755.

p-nitrophenyl ester (v. Auwers, Baum, and Lorenz), A., 671. di- and tri-chloro, salts of, with aromatic amines (Wheeler and Jennings), A., 552.

trichloro-, action of, on phenols (VAN ALPHEN), A., 460. uso of, in toxicology, and its alkaloid salts (Florence), A., 1098, 1219.

esters of (Housen and Fischer), A., 1079.

chlorobromo-, optical resolution of (BACKER and MOOK), A., 132. chloroiodo-, and its salts, resolution of (McMath and Read), A.,

cyano-, ethyl and methyl esters, preparation of (URUSHIBARA), A., 755.

methyl ester, dielectric constants of salts in (WALDEN and Werner), A., 307.

trifluoro-, isoamyl ester (SWARTS), A., 442.

nitro-, velocity of decomposition of, in aqueous solution (Pedersen), A., 835. thiol-, ethyl ester, nickel derivative (Drummond and Gibson),

A., 156.

Acetic acids, chloro-, and their derivatives, infra-red absorption spectra of (Bennett and Daniels), A., 186. halogeno-, β -octyl esters of, and their behaviour with solvents

(Rule and Mitchell), A., 132.

Acetic anhydride, manufacture of (Meingast, Mudgan, and Consortium für Elektrochem. Ind.), (P.), B., 764*. purification of (British Celanese and Skertchly), (P.), B.,

dehydration with (MENKE), A., 27. reduction with (MENKE), A., 131.

interaction of bromine with (ORTON, WATSON, and HUGHES), A., 1168.

action of, in sulphuric acid solution, on aliphatic unsaturated compounds (EBEL and GOLDBERG), A., 1168. commercial, analysis of (Somiya), B., 439.

determination of, in acetic acid (ORTON and BRADFIELD), A., 645. Acetimino- β -naphthyl ether hydrochloride, trichloro- (Housen and

FISCHER), A., 1079. Acetiminonaphthyl ether hydrochlorides, and chloro- (Housen

and BLAESE), A., 143. Acetiminophenyl ether hydrochloride, and mono-, di-, and trichloro- (HOUBEN and BLAESE), A., 143.

Acetin (Schuette and Sah), A., 132.

Acetoacetamide, trifluoro-, ammonium salt (SWARTS), A., 647. 5-Acetoacetamidoacenaphthene (NAIR and SIMONSEN), A., 159.

Acetoacetic acid, and its ethyl ester and its sodium derivative, behaviour of, in the organism (PACE), A., 1218. degradation of, in the kidneys (SNAPPER and GRÜNBAUM), A., 693. Acetoacetic acid, decomposition of, in the perfused liver (SNAP-PER and GRÜNBAUM), A., 374.

ethyl ester, condensation products of (West), A., 1173.

reactions of, with distyryl ketones (Heilbron and Hill), A.,

derivatives of (Pieroni), A., 573.

2-chloro-4-anisidide of (I. G. FARBENIND.), (P.), B., 597.

detection of, in urine (LORBER), A., 373. determination of (LORBER), A., 372; (PINOUSSEN), A., 800.

Acetoacetic acid, trifluoro-, and its ethyl ester and their derivatives (Swarts), A., 646.

3-Acetoacetylcresols, derivatives of (WITTIG and BLUMENTHAL),

1-Acetoacetyl-2-methoxynaphthalene (WITTIG and Blumenthal), A., 668.

o-Acetoacetylphenols, action of ammonia and its derivatives on (WITTIG and BLUMENTHAL), A., 668.

d(-)-Acetobromoarabinose (Gehrke and Aichner), A., 544. Acetobromogalactose, action of diethylamine on (MAURER and

Mahn), A., 751.

Acetobromoglucose, action of diethylamine on (MAURER and Mahn), A., 751.

Acetobromoglyceraldehyde (FISCHER, TAUBE, and FELDMANN), A., 857.

Acetochloroanilide, rate of change of, into chloroanilides as a measure of catalytic power of hydrochloric acid (Soper), A., 837. Acetoguanamide, and its derivatives (Andreason), A., 864.

Acetoguanamine-ω-sulphonic acid, and its barium salt (Andreазон), А., 864.

Acetoguanide picrate (Andreasch), A., 864.

Acetoguanide-ω-sulphonic acid, and its barium salt (Andreasch), A., 864.

Acetoin. See Acetylmethylcarbinol.

Acetomesidide hydrobromido (Dadswell and Kenner), A., 656. Acetonals, velocity of hydrolysis of (SKRABAL and BILGER), A., 1148.

Acetonaphthone, ωωω-trichloro-4-hydroxy- (Housen and Fisснек), А., 1079.

Acetone, preparation of, from acetic acid (CHEM. FABR. HEYDEN and Feibelmann), (P.), B., 347.

manufacture of, by fermontation (COMMERCIAL SOLVENTS CORP. and Leco), (P.), B., 538.

from n-butyl alcohol (THAYSEN and GREEN), B., 375. physical properties of (Felsing and Durban), A., 13. stability of, to light (Wiesler), A., 1055.

vapour pressure of, at low temperatures (ARCHIBALD and URE), Ā., 818.

viscosity of, at low temperatures (MITSUKURI and TONGMURA), A., 719.

properties of mixtures of isopropyl alcohol and (PARKS and Chaffee), A., 405.

equilibrium of sodium iodide with (WADSWORTH and DAWSON),

dielectric constants of salts in (WALDEN and WERNER), A., 307. reaction between iodine and, in buffer solutions (BERGSTEIN),

electrolytic reduction of (MÜLLER), A., 840.

catalytic condensation of (IPATTEV and PETROV), A., 449, 1172. condensation of, with aldehydes (GLASER and TRAMER), A., 972. δ-d-n- and neo-bornylsemicarbazones (Goodson), A., 1082. cyclohexylhydrazone dioxide hydrochloride (Busch and Linsen-

MEIER), A., 455. thiosemicarbazides, and their derivatives, and thiosemicarbazones (BAIRD, BURNS, and WILSON), A., 1176.

derivatives of sugars. See isoPropylidene.

detection of, by Faught test (SCHAEFFER), A., 134.

detection of, in urine (LORBER), A., 373.

determination of, as complex mercury salt (IONESCO-MATIU), A., 687.

determination of, and its interchange with isopropyl alcohol in the body (Knipping and Ponndorf), A., 70.

determination of, in urine (KLEYER), A., 1105. Acetone, diamino-, pharmacological action of (WADIA), A., 1218. bromo-, and its cyanohydrin (CHRZASZCZEWSKA and SOBIERANski), A., 648

trifluoro-, and its hydrogen sulphite and derivatives (SWARTS), A., 1055.

dihydroxy-, formation of, from bimolecular glyceraldehyde (Fischer, Taube, and Baer), A., 340.

action of oxydoreductase on (Lebedev), A., 76.

Acetone, dihydroxy-, fermentation of, by yeast (HAEHN and GLAUBITZ), A., 378.

metabolism of. See under Metabolism.

fate of, in the normal animal and in pancreatic diabetes (Markowitz and Campbell), A., 693.

influence of, on respiratory metabolism and on blood-phosphates (Lambie and Redhead), A., 693. determination of (SCHMALFUSS), A., 687.

Acetone oils (Suida and Pöll), A., 1055; B., 458; (Princsheim and Schreiber), B., 720.

Acetone-l-arabinose: See l-Arabinose isopropylidene ether.

Acetone-2-hydroxymethyl-5:6-dimethoxybenzhydrazone MAN), A., 876.

Acetonitrile, heats of solution of, in organic solvents (Popov), A., 1143.

Acetonitriles, trisubstituted, action of magnesium phenyl bromide on (RAMART and SALMON-LEGAGNEUR), A., 246.

1-(Acetonyl)hydromethylhydrastinine (OBERLIN), A., 681.

1-Acetonyl-3-methyl-1:4-β-naphthapyran (Dickinson and Heil-BRON), A., 251.

Acetophenone derivatives, absorption spectra of (TASAKI), A., 1078.

δ-aminosemicarbazone (Brown, Pickering, and Wilson), A., 232.

phenylcyclohexylhydrazone (Busch and Haase), A., 554. Acetophenone, o-amino-, oximes of (Meisenheimer, Senn, and

ZIMMERMANN), A., 1076. ω-amino-, phenylhydrazone, benzoyl derivative (Robinson and

THORNLEY), A., 158. ω-bromo-, ω-chloro-, and ωω-diodo-o-nitro- (Arndt, Eistert, and Partale), A., 774.

dichloro-, dichloro-2-amino-, and dichloro-2-nitro- (Roberts and Turner), A., 976.

ω-chloro-o-hydroxy- (v. Auwers and Leo), A., 154. ω-chloronitro- (Dale and Nierenstein), A., 564.

p-hydroxy-, formation of, from phenyl acctate (Minaev), A., 770. acetate (Irvine and Robinson), A., 1084.

3:5-dihydroxy-, and its derivatives (Mauthner), A., 462

3:4:5-trihydroxy-, and its triacetate and derivatives (MAUTH-NER), A., 566.

hydroxyamino-, and nitroamino-, benzoyl and o-salicoyl derivatives (BOGERT and McCOLM), A., 1205.

Acetophenone-4-arsinic acid, and 3-amino- (Deutsche Gold- & SILBER-SCHEIDEANSTALT VORM. ROESSLER), (P.), B., 429. Acetophenone-8-benzylthiosemicarbazide (BAIRD, BURNS, and

Wilson), A., 1176. Acetophenone-5-carboxylic acid, 2-hydroxy-, and its derivatives

(CHATTAWAY and PRATS), A., 458. Acetophenoneoxime O-tolylcarbamatcs (GHEORGHIU), A., 230.

Acetophenoneoxime, o-amino-, benzoyl derivative, and its derivatives (v. Auwers and Frese), A., 161.

2:5-dihydroxy-, acetate of (Lindemann, Könitzer, and Romanoff), A., 980. o-Acetophenylazohydroxylamine (Meisenheimer, Senn,

ZIMMERMANN), A., 1077. Acetopiperone, synthesis of, and its derivatives (MAUTHNER), A.,

Acetopiperonylmethylamide (Malan and Robinson), A., 1200. isoAcetovanillone, and its methyl ether (REICHSTEIN), A., 565.

Acetovanillones, isomeric (REICHSTEIN), A., 565. Acetoveratrone hydrochloride and phenylhydrazone (Korczyń-

SKI, BRYDOWNA, and KIERZEK), A., 255. Acetoxime O-tolylcarbamates (GHEGROHIU), A., 230.

a-Acetoxy-acids, constitution of chlorides of (BLAISE and HERZOG), A., 645.

α-Acetoxyacetophenones, nitro- (Dale and Nierenstein), A., 564. o-Acetoxy-N-acetylanilinoacetonitrile (SIIIMO), A., 49.

p-Acetoxy-N-acetylphenylglycine (Shimo), A., 49.

3-Acetoxybenzaldehyde, 4-hydroxy-, and its p-nitrophenyl-hydrazone (Passu and v. Vargha), A., 152.

2-p-Acetoxybenzamidoacetophenone (Bocert and McColm), A., 1205.

o-Acetoxybenzhydroxanic acid (LINDEMANN and SCHULTHEIS), A., o-Acetoxybenzoic acid (acetylsalicylic acid; aspirin), manufacture

of (Nightingale and Ketold Co.), (P.), B., 59. melting point of (CARSWELL), A., 663 mixtures of, for pharmaceutical use (Angeletti), A., 938. physiological action of (KAUFMANN), A., 663. testing of (VALENTIN and LIEBER), B., 203.

o-Acetoxybenzoic acid (acetylsalicylic acid; aspirin), calcium salt (JACOB), (P.), B., 428.

Acetoxybenzoyl azide and chloride, and 3:5-dibromo- (LINDEMANN and Schultheis), A., 262.

a-Acetoxyisobutyryl chloride, and its anilide (BLAISE and HERZOG), A., 645.

5-Acetoxy-1-carbamyl-3-methylhydantoin (BILTZ, and SLOTTA), A., 1092.

4-p-Acetoxycinnamoxycinnamic acid, and its methyl ester (Ogawa), A., 359.

p-(4-p'-Acetoxycinnamoxycinnamoxy)cinnamic acid, and its methyl ester (Ogawa), A., 359.

p-Acetoxycinnamoyl chloride (Ogawa), A., 359.

p-Acetoxy-aa-dimethylanilinoacetonitrile (Shimo), A., 49.

5-Acetoxy-4:9-dimethyl-4:5-dihydrouric acid, and 4-chloro- (Biltz, KRZIKALLA, and SLOTTA), A., 1092.

5-Acetoxy-3:9-dimethyluric acid, 4-chloro- (BILTZ, KRZIKALLA, and SLOTTA), A., 1092.

Acetoxydiphenyl, 2-chloro- (v. Auwers, Baum, and Lorenz), A., 671.

9-a-Acetoxyethylanthracene, 1:5-dichloro- (BARNETT, COOK, and MATTHEWS), A., 141.

3-Acetoxyindole-2-carboxylic acid, methyl ester (Robertson), A.,

Acetoxylidides, basic character of, and their salts (DADSWELL and KENNER), A., 656.

4-Acetoxy-3-methoxybenzonitrile, 5:6-dibromo- (Raiford and HILMAN), A., 769.

4-(4'-Acetoxy-3'-methoxycinnamoxy)-3-methoxycinnamic acid, and its methyl ester (Ogawa), A., 359.

4-Acetoxy-3-methoxycinnamoyl chloride (Ogawa), A., 359.

p-Acetoxy-a-methylanilinoacetonitrile (Sillino), A., 49.

Acetoxy-1-methylpiperidine, 4-bromo-, and its hydrobromido (MILLS, PARKIN, and WARD), A., 1199.

β-Acetoxynaphthylidene-5:6-diacetoxycoumaranone (Feist and SIEBENLIST), A., 671.

p-Acetoxy-a-phenylanilinoacetonitrile (Shimo), A., 49.

Acetoxyphenylcarbamic acid, and 3:5-dibromo-, esters of (Linder-MANN and Schultheis), A., 262.

Acetoxyphenylcarbimide, and 3:5-dibromo- (Lindemann and SCHULTHEIS), A., 262.

 δ -Acetoxy- β -phenyl- $\gamma\gamma$ -dimethylvalerolactone, and its derivatives (MEERWEIN, BRÄKE, KOMANT, and MORSCHEL), A., 875.

m- and p-Acetoxy-a-phenyl-a-methylanilinoacetonitriles (SHIMO), A., 49.

a-Acetoxyphthalide-a-carboxylic acid, and its aniline salt and derivatives (CORNILLOT), A., 1070.

4-Acetoxytoluene-3-sulphonyl chloride, 5-nitro-, and its derivatives (Anschütz and Cürten), A., 1183.

7-Acetoxy-4-(3':4':5'-trimethoxyphenyl)coumarin (BARGELLINI and GRIPPA), A., 465.

5-Acetoxyuracil, 6-chloro- (BILTZ, PAETZOLD, and NACHTWEY),

Acet-β-phenylethylamide (Erickson), A., 44.

Acet-β-phenylethylamide, amino-, and its hydrochloride, and chloro- (v. Braun and Münch), A., 345.

Acet-p-toluidide, 5-bromo-2-iodo- (NICOLET and SANDIN), A., 868. trichloro- (v. Braun, Jostes, and Münch), A., 548.

Acetureides, substituted, manufacture of (Hoffmann-La Roche & Co.), (P.), B., 573.

Acetyl chloride, reaction of, with magnesium diethyl (GILMAN and SCHULZE), A., 1060.

Acetylacetone, aluminium derivative, crystal structure of (SAR-KAR), A., 98.

europium derivative (SARKAR), A., 325.

Acetylakuammine, and its salts (Henry and Sharp), A., 982. N-Acetylanilinoacetonitrile, o-hydroxy- (Shimo), A., 49.

Acetyl-p-anisidine, chloro-, action of alcoholic potassium hydroxide on (REVERDIN), A., 576.

Acetyl- ψ -arabinal semiacetal (Gehrke and Aichner), A., 545. Acetylazotriphenylmethane (Wieland, Hintermaier, Dennstedt, and Lorenzo), A., 237.

Acetylbenzaldoxime-N-carboxylic acid, o-amino-, methyl ester (v. Auwers and Frese), A., 160.

3-Acetyl-5:6-benzoflavone (WITTIG and BLUMENTHAL), A., 668. N-Acetylbenzoylacetonamine (Benary), A., 1059.

 $\textbf{4-Acetyl-2-bromomethylpyrrolidinium} spiro-\textbf{1:1'-piperidinium} \ brom$ ide (Mannich and Gollasch), A., 572.

ω-Acetylcamphene, and its semicarbazone (Lipp, Küppers, and Holl), A., 883.

4-Acetyl-4-carbethoxy - 2 - bromomethylpyrrolidiniumspiro - 1:1'piperidinium bromide (Mannich and Gollasch), A., 572.

4-Acetyl-4-carbethoxy-1:1'-dimethyl-2-bromomethylpyrrolidinium bromide (Mannich and Gollasch), A., 572.

Acetyl-o-carbomethoxyaminobenzhydrazide, and its hydrochloride (Heller and Siller), A., 677.

Acetylcellulose. See Cellulose acetate.

Acetylchloroaminobenzene, photochemical rearrangement of (PORTER and WILBUR), A., 1041.

Acetylerotonanilide, β-amino-a-chloro- (Benary and Kerok-HOFF), A., 45.

N-Acetyl-5:6-dimethoxy-2-hydroxymethylbenzhydrazide (TASMAN), A., 876.

4-Acetyl-1:1-dimethyl-2-bromomethylpyrrolidinium bromide (Man-NICH and GOLLASCH), A., 572.

Acetyl-1:6-dimethylnaphthalenecarboxylic acid (Feist, Janssen, and CHEN), A., 357.

Acetyl-1:6-dimethylnaphthalenedicarboxylic acid, ethyl ester (FEIST, JANSSEN, and CHEN), A., 357.

1-Acetyl-3:9-dimethyluric acid, 4-chloro- (Biltz, Krzikalla, and SLOTTA), A., 1091.

Acetyldiscatole (Oddo and Mingola), A., 1088.

Acetylene from petroleum (Longhi), (P.), B., 436. manufacture of ammonia and (Tocco and Landi), (P.), B.,

generator for (WAGNER), (P.), B., 469.

granular material for purification of ("HERA" LANDSBERGER & Co. and VER. CHEM. FABR. ZU LEOPOLDSHALL), (P.), B.,

infra-red absorption spectrum of (Meyer and Levin), A., 918. mobility of ions in mixtures of hydrogen and (Loeb and Du SAULT), A., 914.

treatment of adsorbent material for safe storage of (HEPPNER), (P.), B., 885.

explosion of, in gaseous mixtures (EGERTON and GATES), A., 318, 1146.

explosion of mixtures of oxygen and (SAUNDERS), A., 605. action of nitric acid on (McKie), A., 643.

preparation of benzene by polymerisation of (IKI and OGURA),

B., 739. derivatives (Ruggli and Peyer), A., 47.

hydrogenation of (SALKIND and ILJIN), A., 453.

compounds, semi-hydrogenation Acetylenic Schröter), A., 441.

Acetylferuloylferulic acid. See 4-(4'-Acetoxy-3'-methoxycinnamoxy)-3-methoxycinnamic acid.

Acetyl-a-furfuraldoxime (BRADY and GOLDSTEIN), A., 970.

Acetylglyceraldehyde, and its methylcycloacetal (FISCHER, TAUBE, and Feldmann), A., 857.

Acetylglycollaidehyde (Fischer, Taube, and Feldmann), A., 857.

δ-Acetylheptoic acid, and its semicarbazone (Kon and Nutland).

9-Acetylhexahydrocarbazoles, amino-, acetyl derivatives, 6-bromo-, and nitro- (GURNEY and PLANT), A., 774.

1-Acetylindazole, 7-nitro- (v. Auwers and Demuth), A., 260.

2-Acetylindazole, 6-diamino-, acetyl derivatives (FRIES and TAMPKE), A., 783.

1-Acetylisatin, 5-iodo- (AESCHLIMANN), A., 256.

 γ -Acetyl- γ -methylbutane- $a\beta$ -dicarboxylic acid (Bhacvat and SIMONSEN), A., 250.

Acetylmethylcarbinol, production of, by Clostridium acetobutylicum (WILSON, PETERSEN, and FRED), A., 1114. determination of (VAN NIEL), A., 1101.

a-Acetyl-δ-methylenedioxyphenyl-Δαγ-pentadienoic acid, methyl ester (Borsche, Rosenthal, and Meyer), A., 664.

3-Acetyl-1-a-methylethenyl-1:2:2-trimethylcyclopentane, and its derivatives (Salmon-Legagneur), A., 1081.

3-Acetyl-6-methylflavone (WITTIG and BLUMENTHAL), A., 668. δ-Acetyl-a-methylheptoic acid, and its semicarbazone (Kon and

Nutland), A., 153. β-2-Acetyl-4-methylphenylbutyric acid, and its semicarbazone

(Rupe and Schütz), A., 58.

Acetylnaphthionic acid, arylamine salts of (Forster and Watson). Acetyl-6-nitroindazoles, mono-, di-, and tri-chloro- (v. Auwers and

DEMUTH), A., 260. N-Acetylnornicotine (Polonovski and Polonovski), A., 1208.

Acetyl-p-phenetidine, chloro-, action of alcoholic potassium. hydroxide on (REVERDIN), A., 576.

Acetylphenol, 4-nitro-2-chloro- (v. Auwers, Baum, and Lorenz), A., 671.

Acetylphenylalanylanhydro-ornithine (BERGMANN and KÖSTER), A., 755.

N-Acetylphenylalanylarginines, and their dihydrate (BERGMANN and Köster), A., 755.

Acetylphenylalanyldiacetylanhydroarginine (Bergmann Köster), A., 755.

N-Acetylphenylglycine, o-hydroxy- (Simmo), A., 49.

2-Acetyl-3-phenylindole (Manske, Perkin, and Robinson), A.,

p-Acetylphenylthiocarbamide (Dyson, George, and Hunter), A., 351.

p-Acetylphenylthiocarbimide (Dyson, George, and Hunter), A., 351.

2-Acetyl-3-β-phthalimidoethylindole (Manske, Perkin, and Robinson), A., 265.

Acetylsalicylic acid. See o-Acetoxybenzoic acid. Acetylstearic acid, tetrabromodihydroxy- (B (Böeseken, Smit, HOOGLAND, and VAN DEN BROEK), A., 1169.

ω'-Acetylstyrene-p-carboxylic acid (Fighter and Rinders-PACHER), A., 48.

Acetylsyringic acid (Anderson and Nabenhauer), A., 61.

Acetyltetrahydromethylmorphimethine methobromides, and cyano- (v. Braun and Cann), A., 266.

4-Acetyl-2:3:6-trimethyl-a-glucose, 1-chloro (MICHEEL and HESS), A., 1056.

4-Acetyl-2:3:6-trimethylglucosidotrimethylammonium (MICHEEL and HESS), A., 1056. l-4-Acetyl-2:2:3-trimethyl- Δ^3 -cyclohexene-1-earboxylic acid (Bhag-

VAT and SIMONSEN), A., 250.

3-Acetyl-1:2:2-trimethyl-1-a-hydroxyisopropylcyclopentane, and its semicarbazone (Salmon-Legagneur), A., 1081.

Acetyltriphenylmethane (WIELAND, HINTERMAIER, DENNSTEDT, and Lorenzo), A., 237

Acetyl-o-urethanobenzhydrazide (Heller and Siller), A., 677. Acetyl-d-valine, chloro, action of phosphorus pentachloride on (ABDERHALDEN and Rossner), A., 652.

Acetylvanillin, compound of, with dimethylcyclohexanedione (Bernardi), A., 563.

β-Acetylvinyl-p-cresol, 3-α-amino- (WITTIG and BLUMENTHAL), A.,

Acetylyohimbine, and its chloroaurate and mercury derivative (Schomer), A., 1097.

Acid, $C_5H_4O_5$, and its barium salt, from oxidation of furfural dehyde (MILAS), A., 973.

C₆H₁₂O₆, and its salts, from action of ozone on carminic acid (MIYAGAWA), A., 134.

CoH₈O₆, and its salts, from condensation of pyruvic acid with paraformaldehyde (Feofiliaktov), A., 132, 751.

C₉H₁₂O₇, and its salts, by oxidation of lactone from condensation of pyruvic acid and paraformaldehyde (Feofilaktov), A.,

 $C_9H_{14}O_4$, and its derivatives, from $d-\Delta^3$ -carcne (Semmler and v. Schiller), B., 714.

C9H16O4, from wood spirit (PRINGSHEIM and Schreiber), B.,

C10H20O10, barium salt of, from oxidation of arabinodcose (GEHRKE and AICHNER), A., 545.

C₁₀H₈O₄N₂, from hydrolysis of hydrazone from diethylxanthophanic acid (FEIST, DELFS, and LANGENKAMP), A., 151.

 $C_{12}H_{18}O_2$, and its salts, from dehydration of ethyl β -thujolacetate (Hugh and Kon), A., 1195.

from hydrolysis of methyl 1-hydroxydccahydronaphthalene-

1-acetate (Hückel and Wiebke), A., 150. $C_{12}H_{22}O_3$, and its derivatives, from wood spirit (Pringsheim and

Schreiber), B., 720. C13H2O2N3Cl2, from hydrolysis of cycloazi-2:4-dichlorophenylbenztriazone (Chattaway and Walker), A., 353.

 $C_{13}H_9O_2N_3Br_2$, from hydrolysis of cycloazi-2:4-dibromophenylbenztriazone (CHATTAWAY and WALKER), A., 353.

C15H20O2, and its nitrile, from a-camphornitrilic acid chloride, benzene, and aluminium chloride (Salmon-Legagneur), A.,

C₁₅H₂₈O₄, from ozonised nervonic acid (Klenk), A., 691.

C₁₅H₁₀O₄I₄, and its aldehyde, from methylation of thyroxin (HARINGTON and BARGER), A., 358.

C17H12O2N4, and its methyl ester, from dibenzeneazoethylene and methyl sodiomalonate (Vörlander, Zen, and Ender-LEIN), A., 554.

Acid, C19H30O2, methyl ester of, from Manila copal (RUZICKA, STEIGER, and SCHINZ), A., 60.

C₂₀H₂₄O₃, from oxidation of trianhydrostrophanthidin (JACOBS and Gustus), A., 1194.

C₂₀H₄₀O₂ from tubercle bacilli (Anderson), A., 1114.

C23H21O6, and its methyl ester, from oxidation of tryanhydrostrophanthidin (JACOBS and GUSTUS), A., 1194.

C23H31O4, from Manila copal (RUZICKA, STEIGER, and SCHINZ), A., 60.

 $C_{23}H_{35}O_6N$, from oxidation of ketolactamearboxylic acid $C_{23}H_{35}O_4N$ (Schenck and Kirchof), A., 1080. $C_{24}H_{32}O_9$, from bilisoidanic acid and sodium hydroxide

(Schenck and Kirchof), A., 1080.

C₂₄H₃₈O₇, by action of potassium hydroxide on deoxybiliobanic acid (Windaus and van Schoor), A., 56.

C₂₅H₃₅O₁₀N₃, and its dimethyl ester, from action of nitric acid on endsapogenin (WINDAUS, HAMPE, and RABE), A., 42.

C40H60O4, from Manila copal (RUZICKA, STEIGER, and SCHINZ), A., 60. Acids, and their salts, electrical conductivity of, in liquid

ammonia (SMITH), A., 1032. influence of hydrophilic colloids on conductivity of (Brint-

ZINGER), A., 1138.

homogeneous, constitution of (HANTZSCH), A., 1011. gaseous equilibria between bases and (TIAN), A., 727.

influence of neutral salts on equilibria between, and their salts (Kolthoff and Bosch), A., 829.

catalytic activity of (Dawson), A., 214.

effect of o-aminobenzoic acid and of gelatin on titration curves of various (LITTLE), A., 743.

reagents for standardisation of (SCHMITT), A., 433.

acetylenic, and their esters, unsaturation phenomena of (MYDDLETON and BARRETT; MYDDLETON, BERCHEM, and BARRETT), A., 1053.

aliphatic, refractivity and dispersivity of (WATERMAN and BER-TRAM), A., 1167.

anhydrides of (Holde), A., 131.

imide bromides and chlorides of (v. Braun, Jostes, and HEYMONS), A., 231; (v. Braun, Jostes, and Münch), A., 547.

higher, manufacture of (I. G. FARBENIND.), (P.), B., 924. aromatic, and their salts, catalytic hydrogenation of (IPATIEV and RAZUBAIEV), A., 147.

metabolism of. Sco under Metabolism.

dibasic, second dissociation constants of (Duboux and From-MELT), A., 515.

carboxylic, influence of introduction of oxygen or sulphur into (Венаснег), А., 148. esters, reaction of Grignard reagents with (BOYD and HATT),

A., 558. dicarboxylic, anhydrides of, condensation of, with aromatic

diamines (Kuhn, Jacob, and Furter), A., 869. effect of gem-dialkyl groups on (FARMER and KRACOVSKI),

A., 447. saturated, and their ethyl esters, intensity in Röntgen-ray

spectra of (Normand, Ross, and Henderson), A., 612. fatty, manufacture of (Welter), (P.), B., 118*.

from hydrocarbons (PATAKY and NELLENSTEYN), (P.), B., 451*. preparation of pale (Continentale A.-G. für Chemie and

TERN), (P.), B., 531. extraction of, from oils and fats (WILHELM), (P.), B., 196*.

Röntgen-ray structure of (DE BOER), A., 98, 503; (THIBAUD), A., 98; (Trillat), A., 401; (Müller), A., 503.

molecular scattering of light in solutions of (Venkateswaran), A., 921.

polymorphism of (THIBAUD), A., 191.

compressibility of aqueous solutions of (Venkateswaran), A., 1136.

lowering of surface tension at interfaces between water and (DUBRISAY), A., 618.

spreading of, on water (GORTER and GRENDEL), A., 306. addition of iodine to (VAN DER STEUER), B., 494.

catalytic oxidation of, on charcoal (WRIGHT), A., 1039.

constant and variable element of, in micro-organisms (Belin), A., 281.

and their salts, influence of, on fermentation (KATAJIRI), A., 700.

physiological significance of ethylenic linkings in (Terroine, BONNET, KOPP, and VECHOT), A., 791.

Acid, fatty, still for (CONTINENTALE A. G. FÜR CHEMIE), (P.), B.,

separation of (Lewis), A., 39.

liquid and solid, separation of, by Twitchell's method (STEGER and Scheffers), B., 562.

salts, determination of iodino value of (MARGOSCHES and FUCHS), A., 551.

aromatic, behaviour of, in lower animals (Komori, Sendju, Sagara, and Takamatsu), A., 170.

higher (MORGAN and HOLMES), A., 539.

polymorphism of (THIBAUD), A., 645. arylhydrazides of (VESELY and HAAS), A., 959.

saturated, determination of (BERTRAM), B., 450; (VAN Loon and Bertram), B., 727.

saturated, X-ray structure of ω -phenyl derivatives of (PATTERSON), A., 715.

sulpho-aromatic (Petrov), (P.), B., 348; (Petrov and Shestarov), (P.), B., 829*.

unsaturated, addition of iodine to (VAN DER STEUER), B., 562. effect of, on blood-sugar (Lee), A., 74. polyhydric, ionisation of (Morton), A., 1026.

inorganic, effect of salts on adsorption of (PARKS and BARTLETT),

mixed, analysis of (Loriette and Jovinet), B., 700. optically active (Rule), A., 233.

organic, structure of, and their coagulation of proteins (ISGARISCHEV and BOGOMOLOVA), A., 110.

conductivity of, in methyl alcohol, and their catalytic action (GOLDSCHMIDT, MARUM, and THOMAS), A., 1143.

reversal of charge on, by hydrogen and hydroxyl ions (Mukher-JEE and IYER), A., 414.

solubility of, in salt solutions (Larsson), A., 829.

effect of, on imbibition of gels (ISGARISCHEV and POMERAN-CEVA), A., 110.

velocities of reaction of, with chromic acid or potassium permanganate (DEY and DHAR), A., 116.

reaction between organic bases and, in non-aqueous solution (Hölzl), A., 310, 558.

cyclic production of soluble salts of (Buchner), (P.), B., 733. manufacture of peroxides of (McKee), (P.), B., 714.

identification of, in pharmaceutical preparations (ROJAHN and STRUFFMANN), B., 617.

volatile, esters, manufacture of (I. G. FARBENIND.), (P.), B., 237. strong, velocity of reaction in presence of (HANTZSCH and

Weissberger), A., 525. solutions of, with reference to salt effect (Angus and Dawson), A., 111.

unsaturated (Florence), A., 540.

tautomerism in (LINSTEAD), A., 356, 1167.

unsaturated, esters, thermal decomposition of (Skraup and Beno), A., 560.

volatile, production of (MEHNER), (P.), B., 876.

Acid anhydrides. See Anhydrides, acid.

Acid chlorides, use of silicon tetrachloride in preparation of (MONTONNA), A., 958.

formation of, from 6-substituted phenol-o-sulphonic acids (Anschütz and Cürten), A., 1183.

aromatic, hydrolysis of (BERGER and OLIVIER), A., 835. Acid liquors, waste, utilisation of, in chemical processes (KLEIN

and Brown), (P.), B., 876. Acid sludge, treatment of (Halloran, Davis, Davidson, and Standard Oil Co.), (P.), B., 36.

purification of (ROGERS, GRIMM, WENDT, and STANDARD OIL Co.), (P.), B., 549.

Acid-fuchsin, preparation and use of, as a stain (SCANLAN, FRENCH, and HOLMES), A., 593.

Acidity and buffer solutions (TÄUFEL and WAGNER), A., 20. true, and as measured by titration (MANG), A., 35.

Aconite, standardisation of preparations of (Swanson and Hargreaves), B., 504.

Aconitum Stoerckianum, alkaloids of, and their salts (SCHULZE and Berger), A., 1097.

Acraldehyde (acrolein) gels, rhythmic furrows on (Dufraisse and GAILLIOT), A., 19.

condensation product of (Moureu and Dufraisse), (P.), B., 85*. benzoylhydrazone (v. Auwers and Heimke), A., 1203. Acraldehyde, a-bromo-, and its semicarbazone (FARMER and

HEALY), A., 647. Acraldehydes, substituted, condensation products of (I. G. FARBENIND.), (P.), B., 230.

Acridan. See Dihydroacridiue.

Acridinamic acid (Hozer and v. Niementowsky), A., 675.

Acridine, isolation of, from mixtures with other substances (Wirth), (P.), B., 925.

derivatives, manufacture of (I. G. FARBENIND.), (P.), B., 574*. Acridine, 1-amino-, and its picrate, and nitro- (LEHMSTEDT), A., 776. 10-cyano- (WIRTH), (P.), B., 925.

4-hydroxy-, and its salts (MATSUMURA), A., 467.

Acridines, amino- and nitro- (JENSEN), A., 1087.

nitro-, synthesis of (JENSEN and FRIEDRICH), A., 575.

Acridine-1-sulphonic acid, 4-hydroxy-, and 3-iodo-4-hydroxy-(MATSUMURA), A., 467.
Acridinic acid, and its salts and derivatives (Hozer and v.

NIEMENTOWSKY), A., 675. Acridone, bromo-2-nitro- and chloro-2-nitro- (TANASESCU), A., 575.

Acridones, synthesis of (Tanasescu), A., 574.

Acrodiclidium Mahuba, trilaurin from (ANDRÉ), A., 388.

Aerolite (McIntosn), B., 147.

5-β-Acrylic acids, 6-hydroxy-, and their derivatives (Dev and Seshadri), A., 976.

Actinia equina, composition of (HAUROWITZ and WAELSCH), A., 169.

Actinine, identity of, with y-butyrobetaine (ACRERMANN), A., 987. Actinium (IMRE), A., 1021

disintegration series of (Russell), A., 1002.

Actinium-A, mobility of recoil atoms of (DEE), A., 1120.

Actinium-B+C, long-range particles from active deposit of (Mercier), A., 4.

Activation, radiation theory of (Lewis and Mayer), A., 948. by collisions (Tolman, Yost, and Dickinson), A., 604. by shock, molecular induction in (PERRIN and CHOUCROUN),

Activity, calculation of, from freezing point (Bury), A., 113. of electrolytes (Brönsted), A., 1027

determination of, in methyl alcohol with amalgam electrodes (Wolfenden, Wright, Kane, and Buckley), A., 1027.

Activity coefficient, significance of (RANDALL), A., 1027. calculation of (DAVIES), A., 936; (RANDALL), A., 1027. in aqueous alcohol (SCATCHARD), A., 206.

of electrolytes (LaMer, King, and Mason; LaMer and MASON), A., 314; (BRAY), A., 1140. of small ions (MÜLLER), A., 626.

Acyl chlorides, aromatic, action of diazomethane on (Dale and NIERENSTEIN), A., 564.

halides, manufacture of (BRIT. DYESTUFFS CORP. and COFFEY), (P.), B., 93.

Acylindazoles, mobility of acyl groups in (v. Auwers and **ДЕМИТН), А., 260.**

1-Acylindazoles, synthesis of (v. Auwers and Frese), A., 160. Acylresorcinols, production of (SHARP & DOHME and DOHME), (P.),

Acyltetrahydroindazoles, transformations and isomerism of (v. Auwers), A., 576.

Adapter (QUAM), A., 438.

Addition and substitution (MEISENHEIMER), A., 957.

Adenylic acid in muscle (Embden and Zimmermann), A., 787. Adhatoda vasica, alkaloid from (GHOSE), A., 785.

Adhesion in solutions (DUBININ), A., 929.

Adhesives, manufacture of (FACKLER and STEIN-DAVIES Co.), P.), B., 312.

relation of joint strength to tensile strength of films in (McBain and LEE), B., 687.

organic compounds as (McBain and Lee), B., 159. noxious solvents and thinners used in (BEYTHIEN), B., 50.

water-paint, evaluation of (WAGNER), B., 19. Adipic acid, ethyl ester, preparation of (Locquin and Elghozy),

A., 543.

Adipic anhydride (FARMER and KRACOVSKI), A., 447.

Adipocere (Goy), A., 987.

Adonis vernalis, manufacture of a glucosido from (HOFFMANN-LA ROCHE & Co.), (P.), B., 797.

Adrenal cortex, chemistry of (v. SZENT-GYÖRGYI), A., 691. Adrenalectomy, blood in (ESTRADA and DEULOFEU; ROGOFF

and STEWART), A., 71. effect of, on glycogen and muscular lactic acid (Houssay and

Mazzocco), A., 1105. Adrenaline (suprarenine; epinephrine), photo-oxidation of

(VACEK), A., 763. influence of thyroid on action of (Feldberg and Schlif), A., 903. content of, in blood (Schlossmann), A., 476.

Adrenaline, antagonism between insulin and (v. Issekutz), A.,

influence of, on nitrogen exerction (PINCUSSEN and WALTER), A., 276.

effect of, on phosphorus partition in muscle (SACKS), A., 994. effect of, on sugar and phosphate in (BARRENSCHEEN, EISLER, and POPPER), A., 1222.

response of the vascular system to (Burget and Visscher), A., 795.

effect of, on water and salt metabolism (Ederer), A., 795.

determination of (Baker and Marrian), A., 903.

Adsorbents, manufacture of (Ikeda, Isobe, Okazawa, ZAIDAN HOJIN RIKAGAKU KENKYUJO), (P.), B., 512*; (I. G. FARBENIND.), (P.), B., 544.

influence of, on chemical equilibria in solution (Dubrisay and Bravard), A., 827.

recovery of adsorbed materials from (MÜLLER and AMERICAN LURGI CORPORATION), (P.), B., 239. active, manufacture of, and catalytic masses (I. G. FARBENIND.),

(P.), B., 653.

porous, manufacture of (I. G. FARBENIND.), (P.), B., 299. solid, recovery of gases and vapours by (Soc. Recherches D'Exploit. Petrolifères), (P.), B., 210.

separation and recovery of gases and vapours by (Godel), (P.), B., 689.

Adsorbent materials, weatherproof products from (HEUER and

Lano), (P.), B., 963.

Adsorption (Liepatov), A., 16, 407, 732; (Magnus), A., 105; (Ghosh and Dhar), A., 305, 408, 617; (Mokruschin and Essin), A., 305, 721; (Krestinskala), A., 409; (Miller and BANDEMER; CHAKRAVARTI and DHAR), A., 821; (MAGNUS and Kälberer), A., 928.

Gibb's theory of (McBain and Davies), A., 1022; (Bancroft),

A., 1136.

theory of distribution and (Sementschenko), A., 1136.

test of dipole theory of (Palmer), A., 722.

influence of electric fields on (BLUH and STARK), A., 929. and diffusion in an electric field (FÜRTH), A., 509.

and surface area (TARLÉ; SAMESHIMA), A., 1135.

and surface electrical charge (BARY), A., 822. and surface energy of boundary surfaces (Rehbinder), A., 930.

equations of (SWAN and URQUHART), A., 305. Langmuir's equation for, and the law of mass action (HITCHсоск), А., 15.

isotherms of (Tamamushi), A., 199; (Bradley), A., 821.

thermodynamics of (BERNAYS), A., 722.

activation of gases by (Kistiakovski), A., 314; (Taylor and Kistiakovski), A., 426.

in relation to catalysis and enzyme action (Duolaux), A., 107. reactivation of media for (METALLBANK & METALL. GES.), (P.), B., 287.

of gases (Silica Gel Corp. and Holden), (P.), B., 241.

apparatus for measurement of (AGDE and SCHMITT), A., 642.

by metallised silica gels (Reverson and Swearingen), A.,

of contact surfaces of liquids (Dubrisay), A., 822.

of mists by liquids and solids (Remy and Finnern), A., 107. on dissolved molecules (MARINESCO), A., 1135.

and constitution of organic compounds (SCHILOV and NEKRAS-

sov), A., 1135. of organic vapours at liquid interfaces (MICHELI), A., 509.

at solid surfaces (RUFF and ROESNER; RUFF), A., 305. at solid-vapour interfaces, free energy changes in (LENHER and McHaffie), A., 626.

from dilute aqueous solutions in presence of non-electrolytes (Dubinin), A., 929.

from solutions by charcoal (MILLER), A., 929.

in viscous media (Weissenberger and Fränkel), A., 198. in titration analysis (Burschtein), A., 1159.

by animal and vegetable tissues (Effront), B., 153. by ash-free charcoal (Kolthoff), A., 1133.

by metallic hydroxides (SEN), A., 408, 509, 617, 721; (PERRY), A., 721.

by polar precipitates (MUKHERJEE and KUNDU), A., 409. hydrolytic (MUKHERJEE and BASU), A., 408.

Adsorption coefficients for towers (Cantelo, Simmons, Giles, and Brill), B., 799.

Aeron (Scheuer), B., 168.

Aeroplanes, non-rusting steel for (Downes), B., 487.

Aërosols (Kohlschütter), A., 823.

technical (Beyersdorfer), B., 687.

Aestralata lessoni (Australasian petrel), vitamin-D content of oil from (LEIGH-CLARE), A., 796.

Ætiobilianie acid and its anhydride (WIELAND, SCHLICHTING, and Jacobi), A., 248.

Ætiocholanie acid, and its esters (WIELAND, SOHLICHTING, and JACOBI), A., 248

Ætiocholanone, and its semicarbazone (WIELAND, SCHLICHTING, and JACOBI), A., 248.

Ætiocholyl methyl ketone, and its semicarbazone (WIELAND, Schlichting, and Jacobi), A., 248.

Ætioporphyrin, monobromo-, and dichloro- (Fischer TRIEBS), A., 1207.

isoÆtioporphyrins, formation of (Fischer, Halbio, and Walach), A., 469.

Ætioxanthoporphinogen, and its salts and derivatives (FISCHER and TRIEBS), A., 1206.

Affinity (BILTZ and JEEP; BILTZ and BRÄUTIGAM), A., 627; (KLEMM and BRÄUTIGAM), A., 830; (KLEMM; BILTZ and MÜLLER), A., 831; (BILTZ and FISCHER), A., 1141; (BILTZ, KLATTE, and RAHLFS), A., 1143; (BILTZ and RAHLFS), A.,

calculation of, from entropy (Bozza and Devoto), A., 419, 520. electron, of stable molecules at high temperatures (Piccardi), A., 811.

residual, and co-ordination (Morgan and Burstall), A., 753. Agar-agar sols containing salt solutions, electrical conductivity of (IWASE), A., 521.

Ageing of sols and electrolytes (DHAR and CHAKRAVARTI), A.,

Aggregation, forces of, in relation to volume (TRAUBE), A., 1025. Agnotobenzaldehyde (Heller and Herrmann), A., 563.

Agristroden Blowhoffi, venom from (WADA), A., 586. Air, magnetic susceptibility of (VAIDYANATHAN), A., 300.

transformation period of initial positive ions of (VALASEK), A.,

potential gradient for, in the positive column (GÜNTHER-Schulze), A., 709.

dielectric constant of (CARMAN and HUBBARD), A., 293. liquefaction of, and separation into its constituents (Luening),

(P.), B., 602. liquid, rectification of (L'AIR LIQUIDE), (P.), B., 434.

plant for producing oxygen from (Smonis and Liquid Air, Ltd.), (P.), B., 482.

purification of, for respiration (GUILLEMARD), (P.), B., 206. apparatus for cleaning of (Hosch), (P.), B., 207; (Pease and Pease, Inc.), (P.), B., 383.

apparatus for heating or cooling of (FORGAN-POTTS), (P.), B., 2. variations in density of (STOCK and RITTER), B., 74.

effect of temperature on viscosity of (WILLIAMS), A., 13. automatic device for recording from 0 to 3.5% of carbon

dioxide in (Rosecrans), B., 710. alveolar, carbon dioxide equilibrium in (DILL, HURXTHAL, VAN

CAULAERT, FÖLLING, and BOCK; DILL, LAWRENCE, HUEX-THAL, and BOCK), A., 984. modified Haldane apparatus for analysis of (Frederick), B.,

detection of unimolecular ions in (Busse), A., 1119.

determination of small quantities of carbon monoxide in (Komar), B., 936.

See also Atmosphere. Akrite, improvement of properties of (DEUTSCH-LUXEMBURG-ISCHE BERGWERKS- & HÜTTEN-A.-G., and BAUERFELD), (P.),

B., 491. Akuammine, and its salts and derivatives (Henry and Sharp),

A., 982. Alanine, reaction between lævulose and (v. Euler and Brunius),

A., 135. behaviour of, in the diabetic liver (LAUFBERGER), A., 374.

l-Alanine, cobaltic salts of (LEY and TEMME), A., 138.

Alanines of the anthraquinone series, manufacture of (I. G. FARBENIND. and FARBENFABR. VORM. BAYER & Co.), (P.), B.,

α- and β-Alanines, dissociation constants and transference

velocities for (BORK), A., 1026. lanine anhydride, NN'-dibromo-derivative (GOLDSCHMIDT, Alanine anhydride, WIBERG, NAGEL, and MARTIN), A., 983.

d-Alanyl-d-alanine anhydride, rotation and ionisation of (Levene, Bass, Steiger, and Bencowitz), A., 626.

dl-Alanyl-d-aminovaleric acid, and its behaviour with polypeptidase (ABDERHALDEN and HARTMANN), A., 1113.

1-dl-Alanyl-2:5-diketopiperazine (Abderhalden and Schwab),

Alanylphenylalanine anhydride (BERGMANN and MIEKELEY), A.,

"Albromine," formation of, from cocaine hydrochloride and phenylurethane (Santesson), A., 64,

Albumin, density and rotation of solutions of (JESSEN-HANSEN), A., 934.

hydrolysis of, by alkalis (Yaitschnikov), A., 944.

egg., molecular weight of (Svedberg and Nichols), A., 99. influence of salts on ionisation of (Sørensen, Linderstrøm-

LANG, and LUND), A., 512. action of weak acids on, in presence of salts (MASTIN and

SCHRYVER), A., 65.

peptic hydrolysis of (McFarlane, Dunbar, Borsook, and WASTENEYS), A., 278; (MORRELL, BORSOOK, and WAS-TENEYS), A., 483.

effect of denaturation on antigenic properties of (Wu, Ten-BROECK, and LI), A., 986.

serum-, irradiation and heat coagulation of (SPIEGEL-ADOLF), A., 893. hamolytic activity of, in relation to protein content (Pietre),

A., 585.

water-soluble, preparation of (MEYER), (P.), B., 922.

Albumins, acidic properties of (PAULI), A., 19.

Albumino-caseins, extraction and separation of, from vegetable substances (Beaufour), (P.), B., 539. Alcaptonuria in rabbits (Lewis), A., 71.

Alchemy, Arabic and Chinese, relation between (PARTINGTON), A., 850.

Chinese (Partington), A., 129.

Alcohol. See Ethyl alcohol.

Alcohol, C₁₀H₁₈O, from reduction of cyclopentanone (Zelinski, Titz, and Fatejev), A., 47.

C₁₂H₂₂O, from reduction of 3-methylcyclopentanone (Zelinski, Titz, and Fatejev), A., 47.

 $C_{2a}H_{42}O$ from Fabiana imbricata (Edwards and Rogerson), A., 995.

Alcohols, preparation of, from olefine-bearing gases (Petroleum CHEMICAL CORP. and DAVIS), (P.), B., 900.

by hydrolysis of inorganic esters or organic halides (AYRES and HAABESTAD), (P.), B., 859.

catalytic preparation of (CASALE), (P.), B., 619.

manufacture of (MacMullin, Gegenheimer, and Mathieson ALKALI WORKS), (P.), B., 892.

production of, from methane (PATART), (P.), B., 346.

critical solution temperature of mixtures of hydrocarbons with (Boutaric and Corbet), A., 719.

surface tension of aqueous mixtures of (BRUN), A., 409.

dehydration of (Dojarenko), A., 138.

azeotropic mixtures of, with organic halides (Lecat), A., 405, 1133.

photochemical oxidation of (BÖESEKEN and LANGEDIJK), A., 739; (Bowen and Bunn), A., 1040.

catalytic oxidation of, by air, in presence of zinc oxide (OTTENsooser), A., 448.

relative reactivity of hydroxyl hydrogen atoms in (Norris and Cortese), A., 1166.

catalytic decomposition of (Dojarenko), A., 871.

condensation of ethylene oxides with (FOURNEAU and RIBAS), A., 1052.

interaction of, with ketones, under influence of light (BÖESEKEN, COHEN, and LANGEDIJK), A., 769.

aliphatic, adsorption of, by charcoal (GARNER, McKIE, and Knight), A., 617.

aqueous, mutarotation in (RICHARDS, FAULENER, and LOWRY), A., 858.

aromatic, action of, on aromatic compounds in presence of aluminium chloride (Huston, Lewis, and Grotemut), A., 659. fuel, prevention of corrosion of metals by (Benzol-Verband), (P.), B., 245.

halogenated, preparation of (Nord), (P.), B., 347.

higher, synthesis of, and their separation (PATART), (P.), B., 347,

monohydric, constitution and germicidal activity of (TILLEY and Schaffer), A., 485.

polyhydric, partial esterification of (FAIRBOURNE and FOSTER), A., 131.

Alcohols, polyhydric, action of thionyl chloride on (Majima and SIMANUKI), A., 337.

hydroaromatic, etherification of (SENDERENS and ABOULENC), A., 51.

primary, diffraction of Röntgen rays in (Stewart and Morrow),

normal, cybotaxis in (STEWART, MORROW, and CROZIER), A.,

612. secondary, substitution of the hydroxy-group of, by halogen (LEVENE and MIKESKA), A., 53.

condensation of, with phenol (HUSTON, LEWIS, and GROTE-MUT), A., 659.

Alcohols, trifluoro- (SWARTS), A., 442.

Alcoholic liquids, preparation of, of definite strengths (Tellera), B., 90.

unfermentable and bacteria-resisting (Bertin), (P.), B., 922. Aldehyde, C₈H₁₆O, and its semicarbazone, from acctone oil (Pringsheim and Schreiber), B., 721.

Aldehydes, manufacture of (I. G. FARBENIND.), (P.), B., 828. enzymic conversion of (MYRBÄCK and JACOBI), A., 175.

action of, on azo-compounds (BIGIAVI), A., 459.

crossed dismutation between ketones and (Gordon), A., 1195. manufacture of condensation products of (Soc. CHEM. IND. IN Basle), (P.), B., 419.

condensation of, with aryloxyacetic acids (I. G. FARBENIND.), (P.), B., 822.

condensation products of, with dimethylbarbituric acid (Aka-BORI), A., 1087.

manufacture of condensation products of, with ketones (I. G. FARBENIND.), (P.), B., 860.

condensation of, with phenols (SHONO), A., 456.

condensation products from phenols and (CHEM. FABR. ALBERT, AMANN, and FONROBERT), (P.), B., 119; (DE JARNY), (P.), B., 852*; (MELAMID), (P.), B., 947*.

hardening of condensation products of phenols and (Hick and Ніск), (Р.), В., 684.

moulding of condensation products of phenols and (Products PROTECTION CORP.), (P.), B., 851.

aeylated polyphenolic, acyl migration during hydrolysis of (Passu and v. Vargha), A., 152.

aromatic, manufacture of (I. G. FARBENIND. and AKT.-GES. FÜR Anilin-Fabr.), (P.), B., 572; (Craver and Barrett Co.), (P.), B., 764*

condensation of, with aldehydecyanohydrins, in presence of hydrogen chloride (INGHAM), A., 459.

compounds of, with dimethylcyclohexanedione (BERNARDI), A., 563.

condensation of, with cyclohexanones (Cornubert and Le Вінан), А., 1075.

reactions of, with magnesyl indole (MINGOIA), A., 158. condensation of 2-nitrofluorene with (LOEVENICH and LOESER),

A., 970.

oxidation of hydrazones of, and their molecular transpositions (MINUNNI; MINUNNI and D'URSO), A., 1073.

reaction of, with Schiff's reagent (Shoesmith, Sosson, and HETHERINGTON), A., 1074.

phenolic, condensation of, with methyl ethyl ketone (IWAMOTO), A., 566.

application of Perkin reaction to (Ogawa), A., 359. unsaturated, manufacture of (RUPE), (P.), B., 571.

colour reactions of (EKKERT), A., 984.

Merling's reaction with (KRESTINSKI and SOLODKI), A., 1052. determination and identification of (VEIBEL), A., 1172.

determination of carbonyl in (ELLIS), A., 583. Aldehydes, a-bromo- (KIRRMANN), A., 340, 751.

and a-hydroxy- (Dworzak and Pfifferling), A., 1055. o-hydroxy-, condensation of, with a-alkylated β -ketonic esters (DE), A., 773.

Aldehydeacetals, hydrogenation of (SIGMUND and MARCHART), A.,

1054. Aldehydecyanohydrins, condensation of, with aromatic aldehydes,

in presence of hydrogen chloride (INGHAM), A., 459. -Aldehydo-acids, ring-chain tautomerism in (Meerwein, Bräke,

KOMANT, and MORSCHEL), A., 875. Aldehydocarboxylic acids, aliphatic, manufacture of (Boehringer

SOHN and HÄUSSLER), (P.), B., 733. 2-Aldehydo-5-carbethoxy-4-methyl-3-pyrrylpropionic acid (FISCHER and Andersag), A., 1206.

γ-Aldehydo-a-carbomethoxy-β-phenyl-γ-methylvaleric acid (Meer-WEIN, BRÄKE, KOMANT, and MORSCHEL), A., 875.

2-Aldehydo-5-carboxy-4-methyl-3-propionic acid (Fischer and Andersag), A., 1206.

A'-Aldehydodecoic acid, derivatives of (Tomecko and Adams), A.,

Aldehydodiphenyl, 4-hydroxy-, and its phenylhydrazone (Bell and Kenyon), A., 145.

2-Aldehydo-6-methoxyanilinoglyoxylic acid, and its salts and ethyl ester (Tröger and Bohnkamp), A., 1201.

5-Aldehydo-4-methylpyrrole-3-propionic acid (FISCHER TREIBS), A., 365.

 γ -Aldehydo- β -phenyl- $\alpha\gamma$ -dimethylbutane- $\alpha\alpha$ -dicarboxylic acid, derivatives of (MEERWEIN, BRÄKE, KOMANT, and MORSCHEL), A., 875.

y-Aldehydo-β-phenyl-ay-dimethylvaleric acid, derivatives of (MEERWEIN, BRÄKE, KOMANT, and MORSCHEL), A., 876.

y-Aldehydo-β-phenyl-y-methylbutane-aa-dicarboxylic acid (MEER-WEIN, BRÄKE, KOMANT, and MORSCHEL), A., 875.

 γ -Aldehydo- β -phenyl- γ -methyl- α -ethylbutane- $\alpha\alpha$ -dicarboxylic acid, and its derivatives (MEERWEIN, BRÄKE, KOMANT, and MOR-SCHEL), A., 876.

γ-Aldehydo-β-phenyl-γ-methylvaleric acid, and its derivatives (MEERWEIN, BRÄKE, KOMANT, and MORSCHEL), A., 875.

к-Aldehydoundecoic acid, methyl ester (Томеско and Adams), A., 339.

Aldol (β -hydroxybutaldehyde), manufacture of, from acetaldehyde (SILBERRAD), (P.), B., 669.

Aldoximes, isomeric ethers of (BRADY and KLEIN), A., 563. N-ethers of (LINDEMANN and TSCHANG), A., 1074.

aliphatic, action of nitrosyl chloride on (RHEINBOLDT and DEWALD), A., 229.

aromatic, electrolytic reduction of (KAPLANSKY), A., 1076. action of nitrosyl chloride on (RHEINBOLDT, DEWALD, Jansen, and Sohmitz-Dumont), A., 245.

"Aldrey," an aluminium alloy (Fuchs), A., 846.

Aleurites Fordii, Australian tung oil from (Penfold), B., 451.

Aleuritic acid, constitution of (NAGEL), A., 447. Alfalfa. See Lucerne.

Algæ, carotinoid pigments of (KYLIN), A., 703. in soils, carbon nutrition of (ROACH), A., 176, 994.

Chinese, iodine, iron, arsenic, and calcium in (READ and Gow), A., 600.

green, respiration and fermentation of (Genevois), A., 905.

marine, extraction of (GLOESS), (P.), B., 956.
Algin compounds, production of (ERDAHL), (P.), B., 734.

moulding and hardening of (LOOMIS, KENNEDY, and KELP PRODUCTS Co.), (P.), B., 54.

Alicyclic systems, associated, formation and stability of (FARMER and Ross), A., 148.

Aliphatic compounds, with double linkings, action of acetic anhydride on (EBEL and GOLDBERG), A., 1168.

Alizarin, preparation of (PHILLIPS), A., 362.

synthesis of (TANAKA), A., 566. derivatives of (Glaser and Kahler), A., 752.

Alizarin, nitro-, reaction of, with barium and copper acetates

(LIEPATOV), A., 732 Alkali alkoxides, addition of, to esters (ADICKES), A., 41, 228.

alkyls (Hein and Segirz), A., 138. aluminates, extraction of, from alkali silicates (Jourdan), (P.), B., 331*.

borates (MENZEL and MECKWITZ), A., 1043.

carbonates, equilibria in solutions of (Walker, Bray, and Johnston), A., 626.

perchlorates, isomorphism of alkaline-earth sulphates and (Vorländer and Hempel), A., 503.

chlorides, manufacture of (BILLITER), B., 777.

instantaneous spectra of (NAGAOKA, NUKIYAMA, and FUTA-GAMI), A., 809.

electrolysis of (GERLACH), (P.), B., 330.

apparatus for (DUPIRE), (P.), B., 607; (KREBS), (P.), B., 607, 849.

electrochemical cell for use in (GERLACH), (P.), B., 849. concentration-vapour pressure curves of (Allmand), A.,

ebullioscopie study of mercuric chloride complexes with (Bourion and Rouyer), A., 729.

adsorption of, from solutions by active carbon (Zelinski and

Balandin), A., 15. equilibria of cobalt chloride, water, and (FOOTE), A., 313. conversion of, into carbonates (MURAVLEV), A., 953, 1046. Alkali chlorides, conversion of, into nitrates with simultaneous production of chlorine (Dominik), B., 700.

action of sulphur trioxide and air on (Zellstoff-fabrik WALDHOF and SCHMIDT), (P.), B., 11.

compounds of zirconium oxychloride with (CHAUVENET and DUCHEMIN), A., 1156.

chlorides and hypochlorites, solid mixtures of (OPPE), (P.),

compounds, positive ions from mixtures of iron compounds with (Kunsman), A., 603.

effervescent, manufacture of (LITTLE and UPJOHN Co.), (P.), B., 217.

cyanides, manufacture of (CALIFORNIA CYANIDE Co. and METZGER), (P.), B., 556*. purification of solutions of (I. G. FARBENIND.), (P.), B., 677.

fluoborates, phenomena due to low refractive indices of (DE Boer), A., 1025.

thermal dissociation of (DE BOER and VAN LIEMPT), A., 429. halides, absorption spectra of (MÜLLER), A., 185.

relation between absorption spectra and molecular structure of (Franck, Kuhn, and Rollerson), A., 711.

absorption spectra of phosphors of (HILSCH; SMAKULA), A., 1125.

dispersion and refraction of (Wolf), A., 8.

partial molal volumes of water and salt in solutions of (LAMER and Gronwall), A., 405.

surface energy of (DE BLOCK), A., 723.

compounds of cadmium halides and (BOURION and ROUYER), A., 415.

action of cyclohexene oxide on (SEN and BARAT), A., 762. hydrides, densities of (Kasarnovski and Proskurnin), A., 718. hydroxides, production of (Bradley and McKeefe), (P.), B., 814.

granular, production of (WILEY and MENSING), (P.), B., 815*.

conductivity of dilute aqueous solutions of (RANDALL and SCALIONE), A., 733.

surface tension and viscosity of solutions of (FAUST), A., 409.

field evaporator for solutions of (Sauerbrey Maschinen-FABR.), (P.), B., 298.

ionisation of compounds of sucrose and (ATEN, VAN GINNEKEN, and ENGELHARD), B., 23.

standards for volumetric analysis of (SCHMITT), A., 845. hyposulphites, production of (I. G. FARBENIND.), (P.), B., 628. iodides, preparation of, from iodised charcoal (N. V. Bomomaats.

ARINA), (P.), B., 330. photochemistry of (STOBBE and STEINBERGER), A., 428. double iodides, manufacture of (TRUTTWIN), (P.), B., 461*.

permanganates, deoxidation of, in alkaline solution (MAXIMOV), A., 218, 742. metals, magnetic susceptibility of (McLennan, Ruedy, and

COHEN), A., 1017. instantaneous spectra of (NAGAOKA, NUKIYAMA, and FUTA-

GAMI), A., SO9. intensity ratio for doublets in spectra of (Kohn and Jakob;

FÜCHTBAUER and MEIER), A., 178. photo-electric properties of thin films of (IVES), A., 84.

ionisation potentials of (PICCARDI), A., 811.

vapour pressure of (Rowe), A., 302.

differential cleavage of carbon-to-carbon linking by (Conant and GARVEY), A., 1177.

search for the sixth (MURMANN), A., 95.

double sulphates of bismuth with (Caglioti and Stolfi), A.,

double sulphates of rare earths and (ZAMBONINI and STOLFI), A., 112, 949; (Zambonini and Caglioti), A., 842; (Zam-BONINI and RESTAINO), A., 949.

possible separation of alkaline-earth metals and (Diaz DE

RADA), A., 36. removal of borax from (BOOTH, LOGUE, and FEDERAL

PHOSPHORUS Co.), (Р.), В., 166. monoxides, manufacture of CHEMICAL Co.), (P.), B., 187. (Roessler & Hasslacher

salts, heats of solution and dilution of (HOLLUTA and WERNER), A., 1143.

solubility rule for (CROTOGINO), A., 105.

reciprocal solubility of (HOLLUTA and MAUTNER), A., 828. action of liquid ammonia solutions of, on magnesium (Bergstrom), A., 30.

Alkali silicates, production of (HACKSPILL and SALOMON), (P.), decomposition of (MEHNER), (P.), B., 482.

silicates and lead silicates, devitrification of (TABATA), B., 331. sulphates, preparation of, from alkali chlorides (UEBEL), (P.), B., 480.

manufacture of (RHENANIA VER. CHEM. FABR. and RÜSBERG), (P.), B., 481.

manufacture of ammonium sulphate and (STEIN), (P.), B.,

hydrogon sulphates (bisulphates), manufacture of (I. G. FARBENIND.), (P.), B., 652.

sulphydrates, production of (NAEF and Tubize Artificial Silk Co. of America), (P.), B., 749*.

sulphides, manufacture of (FREEMAN and CANADA CARBIDE

Co.), (P.), B., 778*. conversion of, into sulphites (WEST VIRGINIA PULP & PAPER

Co. and Drewsen), (P.), B., 482. sulphites, action of, on halogen compounds (Evans, Mabbott,

and Turner), A., 644. hydrogen sulphites and metabisulphites, manufacture of

(CHEM. FABR. KALK, OEHME, and HERRMUTH), (P.), B., 330. tungstates, reduction of (Spitzin), A., 327.

Alkalis, regeneration of solutions of (ALLEN), (P.), B., 937. lining for recovery furnaces for (Beveridge), (P.), B., 300. fog production in neutralisation of, by halogen hydrides (ASKEW), A., 620.

determination of, electrolytically (Drossbach), A., 953; (GINSBERG), A., 1161.

Alkaline-earth aluminates, soluble (Britton), A., 325. carbides, manufacture of (Mardick and Union & Carbon RESEARCH LAB.), (P.), B., 11.

chlorides, dehydration of fused mixtures of magnesium chloride and (I. G. FARBENIND.), (P.), B., 218.

fluorides, deformation of electronic orbits in (FAJANS), A., 181. hydroxides, ionisation of compounds of sucroso with (ATEN, VAN GINNEKEN, and ENGELHARD), B., 23.

iodides, photochemistry of (Stobbe and Steinberger), A.,

metals, manufacture of, by electrolysis of their molten chlorides (JESSUP), (P.), B., 880.

instantaneous spectra of (NAGAOKA, NUKIYAMA, and FUTA-

GAMI), A., 809. line absorption spectra of (WALTERS and BARRATT), A., 601.

ionisation potentials of (PICCARDI), A., 811. possible separation of alkali metals and (Dfaz DE RADA),

A., 36. salts, action of liquid ammonia solutions of, on magnesium (Bergstrom), A., 30.

sulphates, isomorphism of alkali perchlorates and (Vorlander and HEMPEL), A., 503.

sulphides, crude, production of (SCHULZE), (P.), B., 965. coloration of, under pressure (STALONY-DOBRZAŃSKI), A., 186.

Alkaloids, absorption spectra of (KITASATO), A., 1095. fluorescence spectra of (Andant), A., 1124.

ultra-violet absorption spectra of (BRUSTIER), A., 91. solubility of, in oils (Tellera), B., 124.

hydrolysis of alkoxyl groups of, by aluminium chloride (OBERLIN), A., 681.

amino-oxides of (Polonovski and Polonovski), A., 1208. extraction of, from visceral extracts (MARCILLE), A., 683. toxicity and electromotive action of (BEUTNER), A., 991. buffer action of heated solutions of (Moser), A., 516. animal (Schenck), A., 1098.

from calumba root (Späth and Mosettic), A., 368.

cinchona. See under Cinchona.

corydalis. See Corydalis.

ergot, colour reaction for (Evers), B., 570. opium. See under Opium.

quebracho. See Quebracho alkaloids.

yohimba (KARRER and SALOMON), A., 64: (SPIEGEL), A., 163; (HAHN and Brandenburg), A., 471; (WARNAT), A., 681.

use of reagents for, in presence of sulphuric acid (MARCILLE), A., 683.

optical identification of (KEENAN), B., 858. errors in analysis of (WATRINS and PALKIN), B., 315. location of end-point in titrations of (Morron), B., 617. detection of, microchemically (ROSENTHALER), A., 684; (HEIDUSCHKA and MEISNER), A., 785.

Alkaloids, detection of, with vanillin and piperonal (VAN ITALLIE and Steenhauer), A., 983.

detection of, in viscera (Florence), A., 1219.

determination of nitrogen in (GUILLAUME), A., 887. Alkoxides, metallic, complex formation by (Meerwein), A., 836. Alkoxy-groups, determination of, volumetrically (EATON and WEST), A., 1213.

6-Alkoxyquinolines, S-amino-, manufacture of (I. G. FARBENIND.), (P.), B., 797.

Alkyl carbonates (FAURHOLT), A., 515, 525.

manufacture of (HAMMOND and U.S. INDUSTRIAL ALCOHOL Co.), (P.), B., 59; (MITCHELL and U.S. INDUSTRIAL ALCOHOL Co.), (P.), B., 59, 973.

physical constants of (Kogermann and Kranic), A., 302. chlorosulphites (Bourgeois and Casteele), A., 444.

halides, action of metallic derivatives of ethyl dehydroundecenoate on (MYDDLETON and BERCHEM), A., 959. toxicology of (BACHEM), A., 589.

unsaturated, reactions of (LOEVENICH, LOSEN, and DIERICHS), A., 538.

phosphites, autocatalysis in isomerisation of (Staronka), A., 633.

mutual transformations of (Janczak), A., 226. sulphates, manufacture of (McKee), (P.), B., 892.

hydrogen sulphates, manufacture of (TEXAS Co. and TAVEAU), (P.), B., 378.

Alkylamines, infra-red absorption spectra of (Bell), A., 862. p-Alkylaminohenzaldehydes, preparation of (VILSMEIER and Нласк), А., 245.

1-Alkylaminobenzthiazole bromides, stability of (HUNTER), A.,

1-Alkylaminobenzthiazoles, 5-bromo-, and their dibromides (Hunter and Soyka), A., 263.

2-Alkylamino-β-naphthathiazoles (Dyson, Hunter, and Soyka),

N-Alkyl-p-aminophenols, manufacture of (Chem. Fabr. Grünau, LANDSHOFF, & MEYER), (P.), B., 743.

Alkylanilines, rearrangement of (HIOKINBOTTOM), A., 236.

mesoAlkylanthracenes, synthesis of derivatives of (BARNETT, Cook, and Wiltshire), A., 881.

Alkylbarbituric acids, action of Grignard reagent on (Dox), A., 1087.

Alkylbenzenes, action of gaseous oxygen on (Stephens), A., 48. Alkylcarbonic acids, salts (FAURHOLT), A., 539.

Alkylformanilides, action of phosphoryl chloride on (VILSMEIER and HAACK), A., 245.

Alkylguanidines, nitro- (Davis and Luce), A., 1059.

Alkylcyclohexanones (HALLER and CORNUBERT), A., 152, 666. Alkylhydrobenzoins, stereoisomerism in (TIFFENEAU and LÉVY), A., 1184.

Alkylhydrobenzoin series, semipinacolie and hydrobenzoinic transpositions in (ORÉKHOV and TIFFENEAU), A., 1076.

o-Alkylhydroxylamines, substituted, and their pharmacological action (Jones and Major), A., 754.

Alkylidenephthalides, reduction of (Berlingozzi and Cione), A., 560.

Alkylnaphthalenes, chlorinated, manufacture of (I. G. FARBEN-IND.), (P.), B., 518.

Alkylcyclopentanones (Haller and Cornubert), A., 152, 666. Alkylresorcinols, manufacture of (Sharp & Dohme and Dohme), (P.), B., 156; (HIRZEL and SCHILT), (P.), B., 459.

Alkylresorcinolcarboxylic acids, cytolytic, anti-toxic, and homogenising power of (BLEYER), A., 380.

Allantoic acid, detection of, and its mercury salt (Fosse and HIEULLE), A., 1175.

determination of, as xanthylearbamide (Fosse and Bossuxt),

Allene bases, asymmetric, use of Grignard reagents in syntheses of (Hurd and Webb), A., 336.

Allenetetracarboxylic acid, ethyl ester (Faltis and Pirsch), A., 856.

Alligators, blood of. See under Blood.

Allium preparations, manufacture of (CHEM. FABR. SANDOZ; Кивота), (Р.), В., 268.

Allotropy and internal equilibrium (SMITS), A., 1027.

Alloys (Hume-Rothery), A., 1029; (Cooper and Kemet LABORATORIES Co.; JUDY and SUMET CORP.), (P.), B., 169; (RUDER and GENERAL ELECTRIC Co.), (P.), B., 561*. structure and crystallisation of (PORTEVIN), A., 923. preparation of single crystals of (Seng), B., 880.

Alloys, manufacture of, in the electric furnace (CROESE), (P.), B.,

apparatus for heat treatment of (SMITH, GARNETT, and HOLDEN), (P.), B., 224.

refining of (TULLIS), (P.), B., 848*.

variations in mechanical properties of, with temperature (MICHEL and MATTE), B., 703.

variation of electrical resistance of (Jeffery), A., 1030.

thermo-electric properties of (Norbury; van Aubel), A., 197. thermal conductivity of (EUCKEN and DITTRICH), A., 506.

thermal conductivity and constitution of (Schulze), A., 196. influence of rate of cooling on structure of (Botschwar), B., 969.

tough annealing of (LA Cour and LINDH), (P.), B., 528.

relation between temperature and Hall effect in (OBATA),

fluidity of (Losana), A., 1133.

separation of components of (Bossière and Zanicoli), (P.), B., 820*.

occlusion of gases by (Iwasé), A., 15.

limiting states in (GRENET), B., 334. melting of (FOURMENT), B., 681.

having high melting point, casting of (BRENNICKE), (P.), B., 659.

molten, electrolysis of (KREMANN and TRÖSTER; KREMANN), A., 25.

electrical resistance of (Matuyama), A., 820.

surface tension of (Drath and Sauerwald), A., 723; (Matu-

YAMA), A., 1019. internal friction of (SAUERWALD and TÖPLER), A., 14; (Bienias and Sauerwald), A., 508.

inverse segregation in (GENDERS), B., 301.

resistant to corrosion, properties of (SCHULZ and JENGE), B., 111.

for electrical conductors (SMITH, GARNETT, and HOLDEN), (P.), B., 912.

for electrical contacts (FREDRIKSEN), (P.), B., 81.

for hard-chilled castings (Early), (P.), B., 705. for high-temperature springs (SMITH and WESTERN ELECTRIC Co.), (P.), B., 726.

for jets used in spinning artificial silk (DREAPER), (P.), B., 47. for non-shrinking moulds (ZEISS), (P.), B., 490.

for pens (Yonezu), (P.), B., 169.

suitable as platinum substitutes (Soc. Anon. Caplain Saint-André), (P.), B., 194.

for resistances (FULLER and GEN. ELECTRIC Co.), (P.), B., 881. for loading telephone and telegraph conductors (SMITH and GARNETT), (P.), B., 80.

for tools, high-speed, determination of cobalt and other elements in (Schiffer), B., 845.

acid-resisting, with a nickel base (Roнn), В., 111.

bearing metal (SEMPELL; KEMP and KITTL), (P.), B., 560; (WILLIAMS, BOEGEHOLD, and GENERAL MOTORS RESEARCH CORP.), (P.), B., 820*; (DEICHES; TUTZKY), (P.), B., 913; (CLAUS), (P.), B., 943*.

of high lead content with bronze basis (STELLA A.-G. and DREIFUSS), (P.), B., 490.

binary, magnetic susceptibility of (ENDO), A., 720; (SPENCER and JOHN), A., 1016.

crystalline, tensile tests on (Elam), B., 558.

dental (Vogt, Harsch, and Smith & Son Manuf. Co.), (P.), **B.**, 169.

"elektron," age-hardening tests with (Meissner), B., 969.

eutectic (HARGREAVES), B., 255.

fusible (RICHARDSON and EDISON ELECTRIC APPLIANCE Co.),

(P.), B., 169. hard-metal, sintered, manufacture of articles from (KRUPP A.-G.), (P.), B., 942.

heat-resisting (Brophy and General Electric Co.), (P.), B., 561*.

causes of failure in (SUTTON), B., 879.

light, thermal conductivity of (GRARD and VILLEY), B., 911. low-carbon, preparation of (Browne), (P.), B., 912; (Nilson), (P.), B., 942.

magnetic (SMITH, POPPLEFORD, and GARNETT), (P.), B., 338*.

manufacture of (Browne), (P.), B., 448.

17

magnetisable (Schurer and Felten & Guilleaume Carls-WERK), (P.), B., 81*.

metallic, manufacture of (SIEMENS & HALSKE and DUHME), (P.), B., 114.

Alloys, metallic, transition compounds between salts and (PADOA), A., 734.

separation of, into their components by centrifuging (SCHMIDT), (P.), B., 561.

non-ferrous, attack of, by molten metals (HARTLEY), B., 279. for tools (Wissler and HAYNES STELLITE Co.), (P.), B., 16. non-magnetic, magnetic analysis of (Honda and Endo), B., 279.

of high electrical resistance (Kamishima), (P.), B., 847. refractory metal, manufacture of (LAISE), (P.), B., 785.

resistor (Pilling and Westinghouse Electric & Manuf. Co.), (P.), B., 682.

stellite, analysis of (CREMER and FETHENHEUER), B., 704.

Alloys. See also Rose's metal.

Allyl alcohol, dehydrogenation of (Constable), A., 27.

Allyl chloride, β -chloro-, preparation of (Bert and Dorier),

Allylaniline, β-bromo-, and its salts and derivatives (v. Braun and TAUBER), A., 1179.
-Allylbenzene, 1:1-dihydroxy-, and its dibenzoyl derivative

3-Allylbenzene, 1:1-dihydroxy-, a (Perkin and Trikojus), A., 871.

1-Allylbenziminazolone-5-arsinic acid (I. G. FARBENIND. and FARBW. VORM. MEISTER, LUCIUS, & BRÜNING), (P.), B., 670.

1-Allyl-2:3-dimethylpyrazolium iodide (v. Auwers and Bahr),

2-Allylimino-5-methylthiol-2:3-dihydro-1:3:4-thiodiazole, and its acetyl derivative (P. C. and S. C. Guha), A., 982.

2-Allylimino-5-thion-1:3:4-thiodiazole (DE), A., 784.

2-Allyl-4-methylcyclohexanone, condensation products of, with benzaldehyde (Cornubert and Le Bihan), A., 1076.

1-Allylmethylpyrazolecarboxylic acids, and their ethyl esters (v. Auwers and Bahr), A., 678.

1-Allylmethylpyrazoles, and their picrates (v. Auwers and Bahr), A., 678.

2-Allyl-a-naphthaquinone, 3-hydroxy-, and its derivatives (FIESER), A., 155.

Allyloxynaphthaquinones (FIESER), A., 155.

a-Allyl-Δγ-pentenoylcarbamide (Hoffmann-La Roche & Co), (P.), B., 574.

Allylthiocarbamide (thiosinamine), sensitising action of, on gelatin (SCHMIDT), B., 157.

equilibrium of antipyrine with (MAZZETTI), A., 22. silver halides (Sheppard and Hudson), A., 755.

Allylthiocarbimide (allyl mustard oil), condensation of, with anthranilic acid (Rossi), A., 1207.

derivatives of, with piperazine and semicarbazide (Rosen-THALER), A., 451.

Allylthiosemicarbazide, action of hydrochloric acid on (DE), A., 784.

 δ -Allylthiosemicarbazide dithiocarboxylic acid, methyl ester (P. C. and S. C. Guha), A., 982. Alneon for castings (Schwarz), B., 880

"Alpax," an alloy of aluminium with silicon, applications of

(GUILLET, DE FLEURY, and DE LAVAUD), B., 752. Alpina nutans, paper pulp from (IMPERIAL INSTITUTE), B., 599.

Alternanthera spathulata, action of rare earths on growth of (ARENA), A., 1225.

Alums, viscosity of solutions of (Bobtelsky and Malkova-Janovskaja), A., 932.

Aluminiarsenates (Rosenheim and Thon), A., 1156.

Aluminiferous materials, dissolving of (JACOBSSON), (P.), B., 814. Aluminium, isolation of (MATIGNON and MARCHAL), A., 430.

first production of (TOSTERUD and EDWARDS), A., 537. from Oersted to Arvida (EDWARDS), B., 302.

electric furnace for manufacture of (LAUBER), (P.), B., 449. Röntgen-ray structure of (ELAM), A., 917.

pure, structure and tensile properties of (v. Göler and Sachs), B., 336.

manufacture of (DEUTSCHE VERSUCHSANSTALT FÜR LUFTFAHRT), (P.), B., 847. properties of (GUILLET), B., 657.

and its alloys, refining of (TULLIS), (P.), B., 606; (METALL-BANK & METALLUROISCHE GES.), (P.), B., 785. inclusions in (STEUDEL), B., 582.

cementation of, by copper (Cournot and Pérot), (P.), B., 167. after double electro-deposition (Cournot and Perot), B., 559. treatment of, to facilitate welding and soldering (KIRCHHOF),

(P.), B., 47, 881*. and its alloys, fluxes for welding of (BOOER, BRITTEN, and

DISTRICT CHEMICAL Co.), (P.), B., 194.

Aluminium, welding of, to copper (Capicotto and Dubilier Condenser Corp.), (P.), B., 753. solder for (SMITH), (P.), B., 527.

and its alloys, solder for (Line), (P.), B., 80; (Preston), (P.), B., 303; (Conti), (P.), B., 338*; (Tottman), (P.), B., 448; (Vergo Aluminium & Metallverwertungs-Ges.), (P.), B., 560; (Stuttgarter Versicherungs-Ges.), (P.), B., 560; B., 913; (GAIL and SEITZ; PASSALACQUA), (P.), B., 969. tensile strength and Brinell hardness of (BOHNER), B., 489.

tempering of (GULLET), B., 192. instantaneous spectrum of (NAGAOKA, NUKIYAMA, and FUTA-

GAMI), A., 911.

spark spectrum of (WETTERBLAD), A., 491; (SAWYER and PASCHEN), A., 998.

absorption of X-rays by (GAERTNER), A., 911; (MARTIN),

A., 912.

reflexion of X-rays by (BEARDEN), A., 191.

disintegration of, by a-particles (SCHMIDT), A., 494.

emission of H-particles from, bombarded with a-particles (STETTER), A., 494.

influence of gas content on velocity distribution of photoelectrons from (KLUGE), A., 287.

electrode potential of (DROSSBACH), A., 421.

potential of, in aqueous solutions (KAHLENBERG and FRENCH), A., 522.

potentials of, and its amalgams (DADIEU), A., 210.

thermal and electrical conductivity of single crystals of (GRIFFITHS), A., 613.

commercial, electrical conductivity of (MASING and HAASE), B., 112.

periodic passivity of (Hedges), A., 25.

crystal orientation in (TANAKA; TAMMANN and HEINZEL), A., 1012.

recrystallisation of (VAN ARKEL and VAN BRUGGEN), A., 816; (GLOCKER and WIDMANN), B., 280.

crystals of, under tension (Aston; v. Göler and Sachs), A., 299; (Karnor and Sachs), A., 300; (Taylor), A., 1017.

influence of time and temperature on mechanical fracture of large crystals of (SAUERWALD and ELSNER), A., 1017.

allotropy of (HAAS), A., 1131.

viscosity of, and its alloys (COURNOT and SILVA), A., 1019. equilibrium of thorium with (LEBER), A., 1030.

velocity of solution of, in acids and alkalis (JABLOZYŃSKI and HERMANOWICZ), A., 213; (CENTNERSZWER), A., 214. solubility of silicon in (KÖSTER and MÜLLER), B., 282.

and its alloys, gases evolved from (Guiller and Roux), B., 336. surface films on (SUTTON and WILLSTROP), A., 530, 634; (WITHEY), A., 634.

and its alloys, anodic oxidation of (Bengough and Stuart), B., 16.

film produced by anodic oxidation of (SUTTON and WILLSTROP),

and its alloys, measurement of oxidisability of, after activation by mercuric chloride (QUILLARD), B., 940.

coating of metals with (Neumann), B., 631; (Metallisator Berlin), (P.), B., \$48.

and its alloys, coating of metals with (SMITH), (P.), B., 943.

and its alloys with magnesium, coating of metals with (HOPFELT and NOLDEN), (P.), B., 912. and its alloys, protection of, from corrosion (ALUMINUM Co.

OF AMERICA and DIX), (P.), B., 560; (SUTTON and SIDERY), B., 818.

and its alloys, coatings for (Cournor, Barr, and Péror), B., 489; (Pacz), (P.), B., 658.

metal coatings on (Sprenger Patentverwertung Jirotka and JIROTKA), (P.), B., 144*.

coating of, with copper (Sprenger Patentverwertung Jirotka and Jirotka), (P.), B., 785.

with zinc (Hewitson and Eastman Kodak Co.), (P.), B., 491. recovery of, from dross (FROST and NAT. SMELTING Co.), (P.), B., 194.

from oily metallic mixtures (FROST and NAT. SMELTING Co.), (P.), B., 913.

reactions of, on heating with solid salts (GARRE), A., 430. and its alloys, action of salt solutions on (SAMUEL), B., 489. reaction between ethyl alcohol, iodine, water, and (Jones and

GREEN), A., 538. reaction regions of, with iron, magnesium, and sulphur (Jorissex

and OngRIEHONG), A., 112. reactions of, with organic compounds (Buschlinger), B., 143. Aluminium, reaction of sulphur with (DANNELL and FRÖHLICH). A., 843.

reaction regions of mixtures of sulphur and iron with (Jorissen and GROENEVELD), A., 314.

use of, for brewing vessels (v. Schwarz), B., 424.

in electro-technology (WUNDER), B., 143. use of, as constructional material for inorganic chemical

industry (Buschlinger), B., 336

Aluminium alloys (Dustan and Walrath), (P.), B., 114: (Scheuer; Sander), B., 168; (Guertler, Sander, and GOLDSCHMIDT; ÉTABL. MÉTALL. GIRONDE), (P.), B., 527; (GOLDSCHMIDT A.-G.), (P.), B., 606; (ÉTABL. MÉTALL. GIRONDE), (P.), B., 969.

under-cooling of (GAYLER), B., 817.

influence of casting conditions on tensile properties of (SCHREIBER), B., 940.

resistant to corrosion (SCHMIDT), (P.), B., 606.

resistant to sea-water (STERNER-RAINER), B., 657. industrial uses of (POMMERENKE and HERMAN), B., 604.

addition of aluminium to (MUDGE and INTERNAT. NICKEL Co.), (P.), B., 116*.

plating of iron and steel with (TRIERER WALZWERK), (P.), B., Ĭ68.

light (Losana and Frova), B., 725.

manufacture of (HYBINETTE), (P.), B., 561.

effect of atmospheric exposure on corrosion and properties of (Wilson), B., 167.

with beryllium, mechanical properties of (Kroll), B., 489. age-hardening of (KROLL), B., 488.

with calcium, determination of calcium in (WARD), B., 282.

with calcium and silicon (GROGAN), B., 281.

with copper (METALLBANK & METALLURGISOHE GES.), (P.), B., 448.

segregation phenomena in (CLAUS and DANGO), B., 846. with copper and manganese (Heusler), A., 502; (Krings and OSTMANN), A., 830.

with copper and nickel, manufacture of (Internat. Nickel Co. and Mudge), (P.), B., 302.
with copper and silicon (Fuss and Ver. Aluminiumwerke),

(P.), B., 528*.

with germanium (KROLL), B., 632.

with iron and silicon, constitution of (GWYER and PHILLIPS),

with iron and titanium (FLINTERMANN and GEN. ELECTRIC Co.), (P.), B., 819.

with lithium (Czochralski, Welter, and Allied Process Corp.), (P.), B., 338*; (Czochralski and Allied Process Corp.), (P.), B., 705.

with magnesium, improving mechanical properties of (GIULINI), (P.), B., 913.

with magnesium silicide, sand-cast (DANIELS), B., 78. with mercury, use of, for reduction of benzenesulphonyl chlorides (GEBAUER-FÜLNEGG), A., 655.

with silicon (Czochralski; Fuss), B., 168; (Goldschmidt A.-G.), (P.), B., 448.

age-hardening, replacement of silicon by germanium in (KROLL), B., 632.

carbide-free (METALLBANK & METALLURGISCHE GES.), (P.), B., 144.

See also "Alpax."

with silver, age-hardening of (KROLL), B., 704.

with zinc, transformation of (FRAENKEL and SPANNER), B., 282. tensile tests on crystals of (ELAM), B., 558.

See also Alneon.

determination and separation of oxidisable constituents of (JANDER and BAUR), B., 527.

determination of beryllium and magnesium in (KROLL), B., 489.

determination of lithium in (Schürmann and Böhm), B., 818. determination of magnesium and manganese in (MUGRAUER), B.,

See also "Aldrey" and Scleron metal.

Aluminium salts, double, production of (JULIEN), (P.), B., 601. action of, on growth of plants (SOMMER), A., 1225.

Aluminium bromide, fused electrical transport in solutions in

(ISBEKOV), A., 114. electrochemistry of nitrobenzene solutions of (Plotnikov and

BENDETZKY), A., 832 perchlorate hydrates, preparation and properties of (Dobroser-

DOV), A., 530.

Aluminium chloride, manufacture of (Dearborn and Texas Co.), (P.), B., 140; (HALL and TEXAS CO.), (P.), B., 299; (PRICHARD, HENDERSON, and GULF REFINING CO.), (P.), B., 388; (WOLCOTT and TEXAS Co.), (P.), B., 388, 556*. condensation of (PRIOHARD, HENDERSON, and GULF REFINING

Co.), (P.), B., 965.

production of chlorine and (WOLCOTT and TEXAS Co.), (P.), B., 140.

equilibrium of, with water and potassium and hydrogen chlorides (MALQUORI), A., 628.

action of, on pentahalogenophenols in benzene (Kohn and Dömötör), A., 51. action of, on tolyl bonzoates (Cox), A., 565.

fluoride, production of (Teisler), (P.), B., 778.

halides, manufacture of (MARDICK and Union & CARBON RESEARCH LAB.), (P.), B., 11. hydride, band spectrum of (LUDLOFF), A., 5.

hydroxide, manufacture of (RINMAN; HULTMAN), (P.), B., 74; (PEDERSEN and ALUMINUM Co. of AMERICA), (P.), B., 580. effect of anions on properties of (MILLER), A., 110. adsorption by (SEN), A., 617.

peptisation of solutions of (Moser), A., 516.

equilibrium of fluorides with (TRAVERS), A., 1141. compact, production of (RIEDEL A.-G.), (P.), B., 966.

crystalline separation of, from solutions of its salts (IPATIEV and Mouromtsev), A., 1043.

natural, treatment of (KLIENMANN and BÜTTNER-WERKE), (P.), B., 330.

scaly form of (Neogi and Mitra), A., 741. gels (ZSIGMONDY and BONNELL), A., 1025.

sols, double refraction and thixotropy of (ASCHENBRENNER), A., 813.

nitrate, hydrates of (MALQUORI), A., 949.

equilibrium of ferric nitrate, water, and (MALQUORI), A., 940. equilibrium of potassium nitrate, water, and (MALQUORI), A., 518.

separation of, from mixed nitrate solutions (S.I.P. Soc. ITAL. Potassa), (P.), B., 75.

nitride, fixation of nitrogen as (KRASE, THOMPSON, and YEE), B., 73.

oxide (alumina), manufacture of (Höganäs-Billesholms Aktiebolag), (P.), B., 107; (A./S. Norsk Aluminium Co.), (P.), B., 555; (I. G. Farbenind.), (P.), B., 601. recovery of, from natural silicates (KASSLER), B., 105.

band spectrum of (Pomeroy), A., 185, 1005; (Pomeroy and

BIRGE), A., 1122.

boiling point of (RUFF and KONSCHAK), A., 102.

adsorption of manganese hydroxide by, in ammoniacal solution (Pariselle and Laude), A., 636.

coagulant for (Spencer and Seydel Chemical Co.), (P.), B.,

gels, artificial and soil, differences in heat of reaction of, with hydroxides (Bouyoucos), A., 414.

sols (Pauli and Sohmidt), A., 1137. equilibria of lime, silica, and (HANSEN, DYCKERHOFF, ASHTON,

and Bogue), A., 519. action of, on beryllia (MATIGNON and MARCHAL), A., 1155.

determination of, by precipitation of hydroxide (MURAVLEV and Krassnovski), A., 126.

determination of, volumetrically (GERMUTH), B., 187. oxide and sulphate, production of, from clay (LAVOYE), (P.), B.,

metaphosphate, space-group of (Hendricks and Wyckoff), A., 715.

sulphate, production of (Gen. Chemical Co. and Meiklejohn), (P.), B., 778.

free from iron, preparation of, from alum (Verein. Aluminium Werke), (P.), B., 907.

and its hydrates (KRAUSS and FRICKE), A., 1043.

ammonium sulphate, extraction of, from aluminium sulphate solutions (Ganssen), (P.), B., 252*.

potassium sulphate, purification of, from iron salts (BASSETT and ELECTRO Co.), (P.), B., 298.

Aluminium organic compounds, optically active (WAHL and Andersin), A., 339.

Aluminium detection, determination, and separation: detection of (ALLARDYCE), A., 953.

detection and determination of (KOLTHOFF), A., 1047. and its alloys, detection and determination of impurities in (Adan), B., 143.

Aluminium detection, determination, and separation: determination of, colorimetrically with aluminon in water (Yoe and Hill), A., 1161.

determination of, electrometrically (ANDEREGG and DAUBEN-SPECK), A., 640.

determination of, potentiometrically (Drossbaoh), A., 1047. determination of, volumetrically (HAHN and HARTLEB), A., 745. determination of, by means of cupforron (PINKUS and BELCKE), A., 639; (DE BROUCKÈRE and BELCKE), A., 640.

determination of, in presence of magnesium (Kranjčević and

Rukonió), A., 746.

determination of, in silicates (STEINBRECHER), B., 141. determination of silicon and its oxide in (PRETTNER), B., 414.

determination of zinc in (BOHM), B., 605.

determination and separation of (HALM and VIEWEG), A., 639. determination and separation of, by means of 8-hydroxyquinoline (Berg), A., 848.

separation of boryllium and (Moser and Niesser), A., 846. Aluminium baths, "anode effect" in (ARNDT), B., 659.

Aluminium bronze, transformations of (Bouldoires), B., 489. Aluminium cans for food preserving (SERGER), B., 539.

Aluminium ores, extraction of (Finkelstein), (P.), B., 658. treatment of (Moldenke), (P.), B., 778.

Aluminium ovens for catalytic purposes (FISCHER and TROPSCII),

Aluminon, use of, in analysis (You and Hill), A., 1161. reactions of, with metallic hydroxides of the thallium group (Corey and Rocers), A., 219.

Aluminosilicates, action of lead oxide and strontium oxide on (GARRE), A., 842.

Alumino-oxalic acid, salts (WAHL and ANDERSIN), A., 339. Aluminotartarie acid, alkali salts (PARISELLE), A., 856.

Aluminous materials, decomposition of (BÜTTNER-WERKE and KLEINMANN), (P.), B., 653.

Alunite, treatment of (MITCHELL and HUGHES), (P.), B., 629. Amalgamators (Keith), (P.), B., 682; (COLEMAN), (P.), B., 726. centrifugal (Lewis), (P.), B., 682.

Amber, artificial (Ostromisslenski and Naugatuck Chemical Co.), (P.), B., 228.

Ambrettolic acid, and its barium salt and derivatives (Kerson-BAUM), A., 541.

Ambrettolide (Kerschbaum), A., 541.

Amides, preparation of acid sulphates of, from nitriles (Roessler & HASSLACHER CHEMICAL Co.), (P.), B., 348.

hydrolysis of (Berger and Olivier), A., 1185. action of sodium hypochlorite on (RINKES), A., 652.

distinction between ammonium salts, amines, and (SANCHEZ), A., 552.

acid, production of, and salts (Synthetic Ammonia & Nitrates, and P. A. and H. G. SMITH), (P.), B., 571. action of sodium hypochlorite on (RINKES), A., 45.

primary, a-trisubstituted, action of magnesium organic compounds on (RAMART, LACLÔTRE, and ANAGNOSTOPOULOS), A., 875.

Amidines, formation of (Brunner, Matzler, and Mössmer), A., 867.

tautomerism of (CHEW and PYMAN), A., 1061. substituted, and their hydrochlorides (HILL and Cox), A., 144. Amines, preparation of (KNOLL & Co. and SCHMIDT), (P.), B., 172.

catalytic preparation of (BRINER, FERRERO, and PAILLARD), A., 49.

absorption spectra of (SALANT), A., 711.

reversal of charge on, by hydrogen and hydroxyl ions (MUKHER-JEE and IYER), A., 414.

catalytic methylation of (MACKERT), (P.), B., 772.

action of, on acetylenie y-diketones (DUPONT; BALLET), A.,

reactions of, with β -nitrostyrene (WORRALL), A., 761.

reaction of a-oxides with (Krassusky, Stepanov, Kossenko, and Kussner), A., 546.

reactions between sugars and (v. Euler and Brunius), A., 135. aromatic, action of aminosulphonic acid on (Quilloo), A., 49. nuclear carboxylation of (TERENTIEV and RUBINSTEIN), A.,

reaction of dichloroacetic acid with (Wheeler and Jennings), A., 552

action of chlorosulphonic acid on (LUSTIG and KATSOHER), action of peracetic acid on acetyl derivatives of (BIGIAVI), A.,

658.

Amines, aromatic, products from sulphur chloride and (Meigs and Ellis), (P.), B., 618

action of, on thiosemicarbazide and hydrazodithiodicarbon-

amide (Macurevitsch), A., 777, 1061. mixed, separation of (I. G. Farbenind.), (P.), B., 286.

nitro-derivatives, manufacture of (Leitch & Co. and Everest), (P.), B., 101.

pharmacologically valuable, preparation of (KINDLER), A.,

primary, oxidation of (HELLERMAN and SANDERS), A., 866; (Goldschmidt and Reichel), A., 963.

aromatic, preparation of (I. G. FARBENIND.), (P.), B., 579. condensation of formaldehyde with (LIGHT), (P.), B., 822.

substituted, preparation of (ERICKSON), A., 44.

tertiary, separation of, from primary and secondary amines (British Dyestuffs Corp., Rodd, and Everatt), (P.), B., 627.

halogenated (Marvel, Zartman, and Bluthardt), A., 1064.

identification of (MARVEL and GILLESPIE), A., 66.

distinction between ammonium salts, amides, and (SANCHEZ), A., 552.

Amino-acids, structure of (ABDERHALDEN and HAAS), A., 451. syntheses of (Skita and Wulff), A., 559; (Harington and McCartney), A., 961.

in the body (Harrow and Sherwin), A., 72.

absorption spectra of (ABDERHALDEN and HAAS), A., 6.

ultra-violet absorption spectra of (HÜNECKE), A., 711. oxidation of, by irradiation (LIEBEN), A., 655.

catalytic and specific dynamic actions of (ORT and BOLLMAN), A., 450.

dehydrogenation of, with isatin and its derivatives as catalysts (LANGENBECK), A., 546.

degradation of, by glyoxal derivatives (Neuberg and Kobel), A., 863

action of Grignard reagents on (BETTZIECHE, MENGER, and Wolf), A., 45; (Bettzieche), A., 137; (Bettzieche and MENGER), A., 241.

action of hexosephosphoric acids on (Neuberg and Kobel), A., 652.

complex cobalt, silver, nickel, and cupric salts of, and their optical absorption (Ley), A., 1009.

esters, action of a-oxides on (Kiprianov), A., 343.

anhydrides, autoclave hydrolysis of (Zelinski and Gavrilov), A., 582.

molecular compounds of diketopiperazines and (Pfeiffer, Angern, and Wang; Abderhalden and Schwab), A., 676.

derivatives of, containing sulphur in thioamide combination (GATEWOOD and JOHNSON), A., 62.

effect of, on metabolism (RAPPORT and BEARD), A., 694.

aromatic, absorption spectra of (ABDERHALDEN and HAAS), A.,

optically active, copper salts of (ABDERHALDEN and SCHNITZ-LER), A., 451.

substituted, fission of amides of (Waldschmidt-Leitz, Grass-MANN, and Schäffner), A., 345.

determination of, in protein digests (MARTENS), A., 686.

α-Amino-acids (SKITA and WULFF), A., 765. synthesis of (SCHROETER), A., 44.

unsaturated compounds from, and their conversion into a-ketoacids (Abderhalden and Rossner), A., 652.

anhydrides of N-earboxylic derivatives of (Wessely and John), A., 655.

β-Amino-acids, β-aralkyl (Rodionov and Fedorova), A., 451. Amino-alcohols, aromatic, removal of amino-group from (Tiffen-EAU and LÉVY), A., 146.

tertiary, elimination of amino-group from (McKenzie and Roger), A., 457.

β-Aminoaryl-acids, aliphatic, preparation of (Rodionov and Malevinskaja), A., 137.

Amino-compounds, interaction of carbohydrates and (Hynd and Macfarlane), A., 43.

aromatic, simultaneous diazotisation and nitration of (VARMA and Krishnamurthy), A., 552; (Rinkes), A., 867.

Amino-groups, determination of, in nitroarylamines (Semiganovsky), A., 1062.

a-Amino-β-hydroxy-acids, and their hydantoin derivatives. formation of a-ketonic acids and carbamides from (BERGMANN and Delis), A., 1202.

Aminohydroxy-compounds which show biuret reaction (Tomita and SENDJU), A., 1058.

Amino-metalmercaptosulphonic acids, derivatives and salts of (CHEM. FABR. SCHERING), (P.), B., 860.

Amino-oxidation (Goldschmidt and Reichel), A., 963.

Aminosulphonic acid, action of, on aromatic amines (QUILICO), A.,

Ammines, heats of formation and volumes of (BILTZ, KLATTE, and RAHLFS), A., 1145. complex metallic (DUFF and BILLS), A., 1065.

Ammonia, formation of, from its elements (WARBURG and RUMP), A., 215.

in tissues, and its relation to purine metabolism (György and RÖTHLER), A., 901.

synthesis of (Collett and Atmospheric Nitrogen Corp.; Urfer), (P.), B., 108*; (Claude and Lazote), (P.), B., 108*, 189*; (Mott and Compressed Gas Corp.), (P.), B., 140; (HUMPHREY and Atmospheric Nitrogen Corp.), (P.), B., 218; (Tocco and Landi), (P.), B., 218, 814; (Soc. CHIM. DE LA GRANDE PAROISSE, AZOTE & PROD. CHIM.), (P.), B., 364, 481; (Unde), (P.), B., 481, 521; (REED), (P.), B., 813.

purification of gases for (MÜLLER), (P.), B., 555.

nitrogen-hydrogen mixtures for (De Jahn and Atmospheric NITROGEN CORP.), (P.), B., 108*.

removal of carbon dioxide from gas mixtures for (Krase and HETHERINGTON), B., 250.

catalytic synthesis of (Bramwell and Atmospheric Nitrogen CORP.), (P.), B., 252*

catalysts for synthesis of (Larson and Brooks; Almouist and CRITTENDEN), B., 72; (GREATHOUSE), (P.), B., 298. iron-alkali mixtures as (Kunsman), A., 603.

photosynthesis of (Burk), A., 1040.
manufacture of (Soc. o'Etudes Min. & Ind.), (P.), B., 218;
(Omnium des Ind. Chim.), (P.), B., 877*.

from butyl fermentation gases (WOODRUFF), B., 888. from action of steam on lignite coke (HOFMANN and GROLL),

B., 289.

household, manufacture of (Walmsley), B., 747. refractivity of (Friberg), A., 499.

infra-red absorption spectra of organic derivatives of (Bell), A.,

photochemical decomposition of (DICKINSON and MITCHELL), A., 217; (Kassel and Noves), A., 1154.

effect of added gases on (MITCHELL and DICKINSON), A.,

ionic mobilities of mixtures of hydrogen and (LOEB), A., 181.

weight of a litre of (Moles), A., 300. density and vapour pressure of aqueous solutions of (MITTASCH,

Kuss, and Schlufter), A., 104. volume of, in ammoniates of copper, silver, and gold (Biltz and

HERZER), A., 188.

liquid, decomposition potentials and metal overvoltages in (GROENING and CADY), A., 210.

as solvent for organic compounds (Dr Carli), A., 720. still for (Towler and Marsh), (P.), B., 601.

adsorption of, on metallic catalysts (DEW and TAYLOR), A., 305.

by glass (Francis and Burt), A., 1134.

equilibrium pressure of, in mixtures with nitrogen (Lurie and GILLESPIE), A., 616.

ammonium nitrate, carbon dioxide, and water, partial pressure of gases in the system (Clark and Krase), B., 250. recovery of, from gases (Davis and Olmstead), (P.), B., 548.

separation of, from gas mixtures (LIEBKNECHT and ROESSLER & Hasslacher Chem. Co.), (P.), B., 107.

separation of water from (Cooper, Henshaw, and Holmes & Co.), (P.), B., 652.

apparatus for catalytic combustion of mixtures of oxygen and (Cederberg), (P.), B., 364. catalytic decomposition of (ELÖD and BANHOLZER), A., 118.

decomposition of, on iron catalysts (Kunsman), A., 1039. thermal decomposition of, on heated molybdenum (Burk), A.,

vapour, explosion of mercury and (VAN BRUNT), A., 439. catalytic methylation of (MACKERT), (P.), B., 772. oxidation of (LILJENROTH), (P.), B., 251, 907*.

oxidation of, to nitrate at alkaline surfaces (Hofmann, Les-chewski, Lemme, Galotti, Mayen, and Gundelach), B., 600.

Ammonia, catalytic oxidation of (ZAWADZKI and LICHTENSTEIN), A., 215; (Andrussov), A., 321, 1039; B., 217; (Scott and LEECH), B., 186; (BODENSTEIN), B., 217; B., 906; (TAYLOR), B., 936. (RASCHIG),

action of, on acetylenic y-diketones (Duront; Ballet), A.,

1055.

condensation of, with crotonaldehyde, in presence of aluminium oxide (Tschitschbabin and Oparina), A., 1086. substitution of, in complexes, by ethylenediamine (Job), A., 546. compound of molybdomalic acid complex with (DARMOIS), A.,

41.

additive compounds of, with phenols (BRINER and AGATHON), A., 1181.

action of, on propylene oxide (Levene and Walti), A., 343. in blood (Klisiecki, Mozolowski, and Taubenhaus; Mozo-LOWSKI and TAUBENHAUS; ADLERSBERG and TAUBENHAUS), A., 369.

determination of, in blood (Rehberg), A., 67.

determination of, in fertilisers and soils (Demolon), B., 792. determination of, in urine, microchemically (Weber and KRANE), A., 478.

Ammonia liquors, recovery of phenols from (CRAWFORD), B., 179. removal of tar acids from (Robinson and Parkes), (P.), B., 39. determination of phenol in (BACH and UTHE), B., 401. Ammoniates, stability of (Cuy), A., 191.

Ammonium salts, apparatus for volatilisation of (Fischer), B., 73. explosive (Kast), B., 716.

in circulating blood (PAMAS), A., 369.

distinction between amides, amines, and (Sanchez), A., 552. quaternary, influence of various substances on velocity of formation of (Muchin and Moiseev; Muchin, Karlson, and Stein; Ginsburg and Muchin), A., 1149.

solid, separation of, from alkali or alkaline-earth salts (FARB-WERKE VORM. MEISTER, LUCIUS, & BRÜNING), (P.), B., 251.

Ammonium carbonate, commercial lumpy, production of (I. G. FARBENIND.), (P.), B., 877.

solid, manufacture of (RHENANIA-KUNHEIM VEREIN CHEM. Fabr.), (P.), B., 652, 777.

chloride, manufacture of (Moore, Polack, and Castner-KELLNER ALKALI Co.), (P.), B., 652, 701. from ammonia-soda liquors (I. G. FARBENIND.), (P.), B., 814.

from gas liquor (Adolphi), B., 651.

production of alkali sulphates and (Continentale A.-G. für CHEMIE and GERNGRÖSS), (P.), B., 778*.

density of solutions of (Jessen-Hansen), A., 932.

equilibria of vapour of (SMITS), A., 819. molten (MERTNER; SIEGEL), B., 875.

sublimed, preparation of (SIEGEL), B., 875.

briquetting of (Continentale A.-G. für Chemie), (P.), B., 814.

separation of hexamethylenetetramine from (CARTER and KARPEN & BROS.), (P.), B., 619.

action of cyclohexene oxide on (SEN and BARAT), A., 762. prevention of tetany by administration of (WERNER), A., 1107. eupric chloride dihydrate, crystal structure of (HENDRICKS and Dickinson), A., 1013.

fluoride, crystal structure of (ZACHARIASEN), A., 814. fluorides, manufacture of (Proctor and Gen. Chemical Co.), (P.), B., 907.

halides and sulphate, use of mixtures of, in analysis (Moser and MAXYMOWICZ), A., 435.

hydroxides, quaternary, decomposition of (Stewart and Aston),

A., 862. nitrate, manufacture of (Azogeno S.-A. Fabr. Dell' Ammoniaca Sintetica & Prod. Derivati), (P.), B., 408; (Howard and Grasselli Chemical Co.), (P.), B., 628.

concentration of solutions of (Azogeno S.-A. Fabr. Dell' AMMONIACA SINTETICA & PROD. DERIVATI and TONIOLO), (P.), B., 440.

granulation of (SYMMES and HERCULES POWDER Co.), (P.), B., 158.

partial pressures of gases in the system ammonia, carbon dioxide, water, and (Clark and Krase), B., 250. physiological acidity of (Prianischnikov), A., 596

nitrate and nitrite, production of (BESEMFELDER), (P.), B., 804. nitrate and sulphate, double salt of (JÄNECKE, EISSNER, and Brill), A., 313.

phosphates, production of (I. G. FARBENIND.), (P.), B., 233. dissociation pressures of (WARREN), A., 927.

Ammonium dihydrogen phosphate, manufacture of (Larison, FRICK, CARO, and ANACONDA COPPER MINING Co.), (P.), B.,

monometaphosphate (Kiehl and Hill), A., 220.

phosphomolybdate, titration of, with sodium hydroxide in presence of formaldehyde (Scheffer), A., 953.

hexachloroplumbate, crystal structure of (WYOKOFF and DENNIS), A., 97.

sulphate, manufacture of (Elektrizitatswerk Lonza), (P.), B., 188; (MEYRUEIS; MALLET), (P.), B., 601; (ERNST and Edwards), B., 651.

from coal gas (Soc. Anon. Fours & Coke Semet-Solvay & PIETTE), (P.), B., 107.

apparatus for (BAYERISCHE-STICKSTOFF-WERKE), (P.), B., 965.

saturator for (Chevalet), (P.), B., 298.

manufacture of alkali sulphates and (STEIN), (P.), B., 299. discharge of, from saturating tanks (Collin, A. G. Verwertung v. Brennstoffen & Metallen), (P.), B., 555. physical chemistry of recovery of, from ammoniacal gases and

sulphuric acid (Terres and Schmidt), B., 747. produced at coking plants, discoloration of (WEINDEL), B.,

effluents, removal and recovery of phenols from (PARKES), B., 700.

equilibrium of manganese sulphate, water, and (CAVEN and Johnston), A., 1142.

conversion of, into ammonia (WALMSLEY), B., 747. nitrification of, in soils (HARPER and BOATMAN), B., 373.

as fertiliser (Harvey), (P.), B., 88; (Nolte and Leonhards), B., 262.

sulphate and hydrogen sulphate, manufacture of sulphur and (HARNIST), (P.), B., 522.

lanthanum sulphate (Zambonini and Stolfi), A., 112. neodymium sulphate (Zambonini and Stolfi), A., 949. persulphate, electrolytic proparation of (Essin and Krylow), A., 422.

sulphide, oxidation of (APPLEBEY and LANYON), B., 131. polysulphide, production of (WILHELM), (P.), B., 628.

sulphites, manufacture of, by the Burkheiser process (Terres and HAHN), B., 675.

sulphoxymolybdates (Fernandes and Palazzo), A., 636.

Ammonium organic compounds:-

Ammonium dihydroxyglyoxime nickelate (Ponzio and DE Paolini), A., 135.

Ammonium ions, configuration of (MILLS, PARKIN, and WARD), A., 1199.

Ammonium radicals, free (Weitz and Schwechten), A., 49,

Amaba dubia, toxicity of salts towards (REZNIKOFF and CHAM-BERS), A., 696.

Amæbæ, imitations of (Herrera), A., 279.

Amorphous state, non-existence of (v. Weimann and Hagiwara).

Amphoteric substances, systems containing (STEARN), A., 21, 516. Amygdalic acid, chloralide of (BÖESEKEN and BLOK), A., 646. isoAmyl diacetone ether, and its semicarbazone (HOFFMAN), A.,

n- and iso-Amylaminobenzthiazoles, and their dibromide hydrobromides (Hunter), A., 263.

1-n- and iso-Amylaminobenzthiazoles, 5-bromo-, and their bromides (Hunter and Soyka), A., 263.

β-isoAmylaminobutyric acid, and its derivatives (Skita and Wulff), A., 559.

isoAmylaminoisohexoethylamide, and its hydrochloride (v. Braun and Münch), A., 345.

2-n- and iso-Amylamino-β-naphthathiazoles, and their bromide hydrobromides (Dyson, Hunter, and Sonka), A., 264.

a-Amylamino-y-phenylbutyric acid (Skita and Wulff), A., 765. a-Amylamino-ε-phenylhexenoic acid (Skita and Wulff), A., 766.

a-Amylamino-ε-phenylhexoic acid (Skita and Wulff), A., 766. a-Amylamino-γ-piperonylbutyric acid (Skita and Wulff), A., 766.

a-isoAmylaminopropionisoamylamide, and its hydrochloride (v. Braun and Müncu), A., 345.

2-isoAmylaminopyridine chloroiodide hydrochloride (Chem. FABR. VORM. SCHERING), (P.), B., 572.

a-Amylamino-γ-p-tolylbutyric acid (Skita and Wulff), A., 765. Amylase, adsorption of, by charcoal (PRZYLECKI, NIEDZVIEDZKA, and Majevski), A., 1113.

Amylase, optimum hydrogen-ion concentration for hydrolysis by (SHERMAN, CALDWELL, and ADAMS), A., 992.

influence of starch injection on, in blood (MAGARAM and ENGELнавот), А., 697.

hepatic (EADIE), A., 482.

effect of, on regulation of blood-sugar (DAVENPORT), A., 68. malt, purification of (GLIMM and SOMMER), A., 1110. pancreatic, purification of (SHERMAN, CALDWELL, and ADAMS),

effect of sodium salts on activity of (SHERMAN, CALDWELL, and DALE), A., 1220.

salivary, inhibitory influence of tartar emetic on (Smorodincev

and ILJIN), A., 792. determination of, in blood (ELMAN and McCAUCHAN), A., 986. determination of, in brewery mash (Wendel), B., 152.

Amylenes, polymerisation of (Norris and Joubert), A., 440. chlorinated, and their trichlorides (SEYER and CHALMERS), A.,

Amylguanidines, nitro- (DAVIS and LUCE), A., 1059.

a-Amylimino- β -benzylidenepropionio acid (Skita and Wulff), A.,

a-Amylimino-β-cinnamylidenepropionic acid (Skita and Wulff), A., 766.

a-Amylimino-β-piperonylidenepropionic acid (Skita and Wulff), A., 766.

a-Amylimino-β-p-tolylidenepropionic acid (Skita and Wulff), A., 765.

Amylose triacetate (Bergmann and Knehe), A., 342.

cryoscopy of (Bergmann, Knehe, and v. Lippmann), A., 1173. γ-isoAmyloxypropan-β-ol, a-chloro- (Fourneau and Ribas), A., 131.

γ-Amylpropargyl bromide. See Δβ-Octinene, a-bromo-.

3-isoAmylpyrazole, 4-hydroxy- (Bertho and Nüssel), A., 1204. 3-isoAmylpyrazole-5-carboxylic acid, 4-hydroxy-, and its ethyl ester (Bertho and Nüssel), A., 1204. Amyl- Δ^{6} -tetrahydrobenzoic acid, 2-a-hydroxy-, and its silver salt

(BERLINGOZZI and LUPO), A., 561. 6-isoAmylthymol (Rosenmund and Sohulz), A., 667.

β-Amyrenone, bromo- (ROLLETT), A., 248.

β-Amyrin from Manila elemi resin (ROLLETT), A., 248.

 α - and β -Amyrins, salts and derivatives of (Schmid and Ludwig), A., 1194.

Anæmia, effect of iron salts on (MITCHELL and VAUGHN), A., 1216. cholesterol, lecithin, and fatty acid in blood in (DE ABERLE, Hoskins, and Bodansky), A., 586.

oxyhemoglobin dissociation curves in (RICHARDS and STRAUSS),

proteins in blood in (Bodansky, Morse, Kiech, and Bramkamp), A., 1105.

experimental, catalase in blood in (Bernstein), A., 373. nutritional, treatment of, with plant ash or extracts (HART, ELVEJHEM, WADDELL, and HERRIN), A., 479.

pernicious, chlorides in blood in (CAMERON and FOSTER), A., 1105.

Anæsthetics, manufacture of (RITSERT), (P.), B., 60.

effect of, on sugar in blood (MACKAY), A., 791.

local, toxicity of, administered intra-arterially (Kuroda), A.,

of the thiophen series (STEIDLE), A., 276.

detection of, colorimetrically (RIEGEL and WILLIAMS), B., 58.

Analysis, use of nomograms in (Reiner), A., 124. titration apparatus for (BAADER), A., 38.

by means of Röntgen or cathode rays (Dessauer and Metallbank & Metallurgische Ges.), (P.), B., 735, 863, 959.

of gases. See Gas analysis. colorimetric, standard solutions for (Mellon and Martin), A.,

correction curves for (WRIGHT), A., 284.

combustion, use of copper oxide spiral in (Tschumanov), A.,

electric furnace for (Gastaldi), A., 334.

electrolytic, with dropping mercury cathodes (Heyrovský), A., 1159.

electrometric, comparison curves of (Simis and Levene), A.,

titration (Butterworth; Cavanagh), A., 1045. industrial, potentiometric titration in (Hahn, Krutsch, DÉGUISNE, WEILER, and HARTLEB), B., 492. iodometric (K. and W. Böttger), A., 222, 330.

microchemical (Rosenthaler), A., 330.

Analysis, microchemical, apparatus for (VAN ZIJP; PINCUSSEN), A., 952.

in works (MEIXNER and KRÖCKER), B., 591.

micro-volumetric (GEILMANN and HÖLTJE), A., 1159.

organic, sources of error in (LINDNER), A., 66.

elementary, errors in (LINDNER), A., 166, 269. micro-combustion (KEMMERER and HALLETT), A., 269.

qualitative (Reichstein), A., 573.

physico-chemical, by crystallisation (Cornec and Kluc),

by chullition of saturated solutions (Cornec and Klug), A., 1020.

potentiometric, determination of end-points in (HAHN and Frommer), A., 743.

differential (MacInnes and Jones), A., 35.

precipitation (ATANASIU), A., 126

titration (HAHN and WEILER), A., 124; (ROTH), A., 533.

qualitative, schome for (MACCHIA), A., 1045. by the dry method (MIGLIACCI and CRAPETTA), A., 329.

spot method of (Tananaev), A., 223, 1159.

quantitative, by means of X-ray spectra (STINTZING), A., 221; (GÜNTHER), A., 329.

by emission spectra (Schweitzer), A., 845. biochemical, mean errors in (Fleisch), A., 80.

microchemical, filters for (Schwarz-Bergkampf), A., 34.

sedimentary (Wentworth), B., 431.

spectroscopic. See Spectroscopic analysis. toxicological, destruction of organic matter for (Semencov and Pavlov), A., 687.

volumetric (SCHMITT), A., 329, 845.

calibration of apparatus for (JACOBSEN), A., 533. errors in glass apparatus for (RENN), B., 735.

temperature corrections in (COUVÉE), A., 34; (SCHOORL), A.,

adsorption method of (Burschtein), A., 1159.

use of liquid amalgams in (Someya), A., 332, 333, 746, 848; (HAKOMORI), A., 1160.

mercury and yellow mercuric oxide as standards for (Kolthoff and van Berk), A., 845.

Anas erythrorhynchos (duck), chemistry of fat of (HEPBURN and Katz), B., 705.

Anatase, crystal structure of (Huggins), A., 1015. Anethole, van der Waals' constants for (Weissenberger and HENKE), A., 111.

Anhydrides, acid, production of (MEHNER), (P.), B., 876. Anhydrite, soluble, existence of (Budnikov), A., 731.

Anhydrobis-2-amino-3-methoxybenzaldehyde, and its phenylhydrazone (Tröger and Sabewa), A., 1089.

Anhydrobisdiketohydrindene, relationship of, with truxenequinone (Ionescu), A., 669. Anhydro-5-carboxy- $2-\beta\beta\beta-tri$ chloro-a-hydroxyethoxy- $1-\beta\beta\beta-tri$ -

chloro-a-hydroxyethylbenzene, and its acid chloride and derivatives (CHATTAWAY and PRATS), A., 458.

Anhydro- $2 - \beta \beta \beta - trichloro - a - hydroxyethoxy - 1 - \beta \beta \beta - trichloro-a$ hydroxyethylbenzene-5-sulphonic acid, and its ammonium salt and derivatives (Chattaway and Morris), A., 967.

Anhydro-5-cyano-2- $\beta\beta\beta$ -trichloro-a-hydroxyethoxy-1- $\beta\beta\beta$ -trichloro-a-hydroxyethylbenzene (CHATTAWAY and PRATS), A.,

Anhydro - 1:2 - di(hydroxyisopropyl)cyclohexane (WIELAND, Schlichting, and v. Langsdorff), A., 243.

Anhydro-3:11-dimethoxytetrahydroberberine, and its hydrochloride (CHARRAVARTI, HAWORTH, and PERKIN), A., 1096.

Anhydroglucosecycloacetoacetic acid, ethyl ester, and its diacetyl derivatives (West), A., 1173.

Anhydromethyltetrahydropalmatines, and their hydrochloride and amine oxide hydrochloride (HAWORTH, KOEPFLI, and PERKIN),. A., 1096.

Anhydromethyltetrahydroprotoborberine, and its hydrochloride (CHAKRAVARTI, HAWORTH, and PERKIN), A., 1096.

Anhydro-3:5-dinitro-2- $\beta\beta\beta$ -trichloro-a-hydroxyethoxy-1- $\beta\beta\beta$ -trichloro-a-hydroxyethylbenzene (Chattaway and Morris), A.,

Anhydroquinovic acid (Wieland and Erlenbach), A., 562.

Anhydrostrophanthidonic acid, methyl ester, and its derivatives (JACOBS and GUSTUS), A., 1194.

β-ε-Anhydro-sugar acids, optical rotation of (Levene and Bass),

Anhydrotetrakis-o-aminobenzaldehyde, and its acetyl derivative, nitroso-derivatives of (Seidel and Dick), A., 1073.

Anhydrotris-o-aminobenzaldehyde, and its acetyl nitroso-derivatives of (SEIDEL and DICK), A., 1073.

Anhydrotris-2-amino-3-methoxybenzaldehyde, and its phenylhydrazone (Tröger and Sabewa), A., 1090.

Anilides, chlorination of (ORTON and BRADFIELD), A., 655.

Aniline, and its alkyl derivatives, infra-red absorption spectra of (ELLIS), A., 291.

electrical conductivities of solutions in (Pound), A., 521.

vapour pressure of (GARRICK), A., 1019.

salting out of, from aqueous solutions (Glasstone, Bridgman, and Honoson), A., 416.

separation point of, from mixtures with rape oil (KLAMER), B., 946.

separation of, from water (LUMMUS), (P.), B., 60.

migration of triphenylmethyl group in (VAN ALPHEN), A., 867.

acetylation of, in glycerol (SARELLARIOS), A., 235. reaction product of acetaldehyde and (Cadwell and Nauga-TUCK CHEMICAL Co.), (P.), B., 460*.

condensation of, with aldehydes, in presence of aluminium oxide (Tschitschibabin and Oparina), A., 1086.

condensation of, with butylene bromides (LEWIS and FORDYCE), A., 454.

action of 2:4-dimethylquinol on (BAMBERGER), A., 556.

p-anilidosulphonylphenoxide (STEINKOPF), A., 965. hexabromostannate (Costeanu), A., 1179.

pentathionate (Josephy and Riesenfeld), A., 220.

additive compound of, with platinum chloride (Rây, Bose-RAY, and GUHA), A., 444.

and nitro-, compounds of, with styphnic acid (EFREMOV), A., · 1179.

calcium hypochlorite reaction for (Rosenthaler), A., 552. determination of, in dilute solutions (PAMFILOV), B., 7.

determination of, by electrometric titration with bromine (Pampilov and Kisseleva), A., 1179.

Aniline, 3-bromo- and 3-chloro-4:6-dinitro- (Hodgson), A., 47. 2:6-dibromo-4-thiocyano-, and p-thiocyano-, and their derivatives and constitution (DIENSKE), A., 454.

mono- and di-chloro-, salicylidene derivatives of (Roberts and TURNER), A., 976.

chloronitro- (SEYEWETZ and CHAISE), A., 353.

nitro-, determination of (Semiganovsky), A., 1062.

m- and p-nitro-, action of, on 2:3:4:6-tetranitrophenylmethylnitroamine (VAN DUIN and KOOLHAAS), A., 757.

Anilines, substituted, position of acetatomercuric groups in (Vecchiotti), A., 1098.

chloro-, interaction of thiocarbonyl chloride and (Dyson, GEORGE, and HUNTER), A., 141.

Aniline-black, products of reserves of (Zeidler), (P.), B., 296. production of fast-coloured resists under (I. G. FARBENIND. and FARBW. VORM. MEISTER, LUCIUS, & BRÜNING), (P.), B., 329.

Aniline dyes, staining of bacteria with (Churchman), A., 281. Aniline-NN-dicarboxylic acid, methyl ester (Bertho), A., 679.

Aniline-2:4-dinitrophenol (Buthler and Heap), A., 141. Aniline-p-sulphonic acid (sulphanilic acid), isoelectric point and ionisation constants of, and conductivity of its mixtures with

lysine (Stearn), A., 21, 516. Aniline-2:4:6-trisulphonic acid, derivatives of (Lustic and Katscher), A., 867.

10-Anilino-9-anilinomethyl-9:10-dihydroanthracene, 1:5-dichloro-9-bromo-, (BARNETT, COOK, and MATTHEWS), A., 141.

a-Anilino-δ-benzoyl-Δa-buten-y-one (Borsone and Peter), A., 570.

10-Anilino-9 - bromomethylene - 9:10 - dihydroanthracene, 1:5-dichloro- (Barnett, Cook, and Matthews), A., 141.

β-Anilinobutyric acid, derivatives of (Skita and Wulff), A., 559. Anilinocarbazole, mono- and di-3-amino-, 3-op-dinitro-, and 3-nitro-o-amino- (Manjunath), A., 978.

3-β-Anilinocrotonylcresols (WITTIG and BLUMENTHAL), A., 668. 2-β-Anilinocrotonyl-1-naphthol (WITTIG and BLUMENTHAL), A.,

1-Anilino-1-cyanocyclopentanes, bromo-, chloro-, and nitro-(OAKESHOTT and PLANT), A., 356.

α-Anilino-aβ-dianisoylethylene (Dupont), A., 1055. a-Anilino-aβ-dibenzoylethylene (Dupont), A., 1055.

2-Anilino-2:5-dimethylcoumaranone (v. Auwers and Lorenz),

9-Anilino-aa'-dinaphthazox-5-one (Goldstein and Radovanovітсн), А., 63.

9-Anilino-aa'-dinaphthoxaz-5-ime (Goldstein and Radovanoviтсн), A., 63.

4-Anilinodiphenyl, di- and tri-nitro- (LE Fèvre, Moir, and Turner), A., 1062.

β-Anilinoethane, α-nitro-, and its salts (Worrall), A., 761.

3-Anilino-4-ethoxycarbanilide, 2:6-dinitro- (Lorand), A., 1182. 1-Anilinocyclohexane-1-carboxylic acid, and its derivatives (BETTS, MUSPRATT, and PLANT), A., 765.

5-Anilino-2-keto-2:3-dihydroxy-1:3:4-thiodiazole (Guha and Sen), A., 784.

γ-Anilino-α-keto-γ-phenylbutyric acid phenylhydrazide (BoD-FORSS), A., 776

2-Anilino-3-keto-5-phenyl-2-methylpyrroline (DIELS, BUDDEN-BERG, and WANG), A., 253.

1-Anilino-5-keto-2-phenylpyrrolidine 4-phenylhydrazone (BoD-FORSS), A., 776.

Anilinomethanesulphinic acid, zinc salt (BAZLEN), A., 843.

2-Anilino-8-methoxy-3-o-anisolesulphonylquinoline (Troger and Krückeberg), A., 159.

2-Anilino-8-methoxy-3-benzenesulphonylquinoline (Tröger and Krückeberg), A., 159.

3-Anilino-4-methoxycarbanilide, 2:6-dinitro- (Lorang), A., 1182. 2-Anilino-8-methoxy-3-p-toluenesulphonylquinoline (Tröger and KRÜCKEBERG), A., 159.

9-Anilinomethylanthracene, 1:5-dichloro- (BARNETT, COOK, and Matthews), A., 140.

Anilinomethylenehydrindone, and its oxime and salts (Rupe and Wieland), A., 58.

Anilinomethylenephenylacetaldehyde (Rupe and Knup), A., 564.

3-Anilino-1:8-naphthasultam, and its 6-sulphonic acid and its aniline salt (I. G. FARBENIND.), (P.), B., 772.

2-(1 - Anilino - 2 - naphthylamino) - 1:4 - naphthaguinone, 4-nitro-(KEHRMANN and PERROT), A., 261.

4-(1-Anilino-2-naphthylimino)-2-hydroxy-1:4-naphthaquinone,

nitro- (KEHRMANN and PERROT), A., 261.
Amilino-m-nitrophenylacetamide, and its salts (Heller and SCHÜTZE), A., 559.

Anilino-m-nitrophenylacetonitrile, isomerism of, and p'-chloro-(Heller and Schütze), A., 559.

1-Anilinocyclopentane-1-carboxylic acids, bromo-, ohloro-, and nitro-, and their amides (OAKESHOTT and PLANT), A., 356.

1-p-Anilinophenylbenztriazole, 2':4'-diamino-, and 2':4'-dinitro-(Manjunath), A., 978.

9-Anilino-N-phenyl-aa'-dinaphthoxaz-5-ime (GOLDSTEIN RADOVANOVITCH), A., 63.

1-(p-Anilinophenyl)-2-methylbenziminazole. 5-nitro-1-m-nitro-(Fries and Abdurrachman), A., 781.

3-Anilino-1-piperidinobenzene, 4:6-dinitro- (Le Fèvre Turner), A., 654.

\$-Anilinopropenyl methyl ketones, mono- and di-chloro-, and 3-chloro-6-amino-, acetyl derivative (ROBERTS and TURNER). A., 976.

6-Anilinopyrimidine, and 2:4-dichloro-, and iodo- (WINKELMANN), A., 678.

2-Anilinothiolbenzophenone, 5-nitro- (FRIES, EISHOLD, and Vahlberg), A., 783.

2-Anilino-5-thiol-1-phenyl-1:3:4-triazole (Guha and Sen), A., 784. 2-Anilino-2:4:6-trimethylcoumaranone (v. Auwers and Lorenz),

Anilopyrine, constitution of (DUTT), A., 260.

Animals, preservation of (HOCHSTETTER and SCHMEIDEL), (P.). B., 30, 718*.

effect of cold on (YAMAGUCIII), A., 1218.

marine, extraction of oil from blubber of (A./S. Forsøksdrift). (P.), B., 915.

hydrogen-ion concentration of muscles of (Furusawa and Kerridge), A., 479.

Animal fibres. See under Fibres.

Animals oils. See Oils, animal.

Animal tissues, co-zymase content of (v. Euler and Runeнјецм), А., 585.

vaso-dilator constituents of extracts of (Best, Dale, Dudley, and THORPE), A., 371.

tanning of (WEBER), (P.), B., 917.

Golgi black reaction of (Moschini), A., 1103.

determination of total sulphur in (LEMATTE, BOINOT, and Kehane), B., 890.

Anisaldehyde (p-methoxybenzaldehyde), compound of, with di-methylcyclohexanedione (Bernardi), A., 563. cyclohexylhydrazone, and its hydrochloride and dioxide

(Busch and Linsenmeier), A., 455.

Anisaldehyde, ω-bromo-, and ω-cyan-hydrazones (VANGHELOVITCH), A., 768. ω -bromo-, and ω -cyano-, 2:4-dibromophenyl-

Anisaldoxime, w-chloro- (RHEINBOLDT, DEWALD, JANSEN, and SCHMITZ-DUMONT), A., 245.

Anise oil, distinction of star anise oil from (MAREEUW), B., 267. o-Anisidine, di- and tri-bromo- (Kohn and Karlin), A., 1182. p-Anisidine, 3:5-dichloro- (Hodgson and Wignall), A., 1064.

o-Anisidine-p-sulphonyl fluoride, and its hydrochloride (STEINкорг), А., 966.

1-Anisidino-1-cyanocyclopentanes (OAKESHOTT and PLANT), A.,

1-o-Anisidinocyclopentane-1-earboxylamide-5'-sulphonic acid, sodium salt (OAKESHOTT and PLANT), A., 356.

1-p-Anisidinocyclopentane-1-carboxylic acid, and its amide (Oakeshott and Plant), A., 356.

Anisole, tribromo., tribromonitro., chloro-mono- and -di-bromo., chlorodibromodinitro., chloro-mono- and -tri-bromonitro., and tetrachloronitro- (Kohn and Sussmann; Kohn and Pfeifer), A., 966; (Kohn and Rabinowitsch), A., 967.

tribromo-diiodo-, and 3:5:6-tribromo-2:4-dinitro- (Kohn and Karlin), A., 1182.

2:4:6-tribromo-5-nitro-, 3-chloro-5-bromo-2:4-dinitro-, and 3chloro-4:5-dibromo-2:6-dinitro- (Kohn and Zandman), A., 52. 4-chloro-2-iodo-, and its dichloride, and dichloroiodo- (Ingold, SMITH, and VASS), A., 762.

dichloronitro-, and mono- and di-chloro-4-nitroso- (Hodgson and WIGNALL), A., 1064.

halogenohydroxy- (Hodoson and Wignall), A., 53.

p-nitro-, equilibrium of diphenylamine and (Pushin), A., 22.

thio-, bromo-derivatives of (VAN HOVE), A., 1065. Anisolesulphonic acids, and their barium salts and amides (VAN Hove), A., 555.

Anisole-p-sulphonyl fluoride, and its 2-nitro-derivative (STEINкорт), А., 965.

Anisotropic liquids. See under Liquids.

systems, rotation of (De Mallemann), A., 610.

o- and p-Anisoylcarbamides (KAUFMANN), A., 663.

p-Anisoyldimethylamide (KINDLER), A., 759.

α-Anisoyl-γ-phenylacetone (Tasaki), A., 1078. p-Anisylazo-β-naphthol, metallic derivatives of (CRIPPA and Martegani), A., 1063.

p-Anisylazotriphenylmethane (WIELAND, HINTERMAIER, DENN-STEDT, and LORENZO), A., 237.

N-p-Anisylbenziminophenyl ether (Chapman), A., 874.

N-o-Anisylcarbamic acid, magnesium salt (TERENTIEV and Rubinstein), A., 1064.

p-Anisyl aa-dibenzylthiol-p-anisylmethyl ketone (Schönberg and SCHÜTZ), A., 667.

p-Anisylethylcarbamide, and a-nitro-β-2:3:5-trinitro-, and its derivatives (LORANG), A., 1182.

p-Anisylhydrazotriphenylmethane (WIELAND, HINTERMAIER, DENNSTEDT, and LORENZO), A., 237.

p-Anisyl 4-hydroxy-2-methoxy-6-methylstyryl ketone (HIRST), A., 1189.

p-Anisyl β -o-hydroxyphenylethyl ketone (Tasaki), A., 1078.

6-p-Anisylideneaminoindazole (v. Auwers and Dемитн), А., 260. 9-Anisylidene-2-nitrofluorenes (LOEVENICH and LOESER), A., 970. 2-o-Anisylimino-5-phenyl-3-p-tolyl-2:3-dihydro-1:3:4-thiodiazine (Bose and Ray-Chaudhury), A., 981.

Anisyl methyl ethyl glycol, semipinacolinic transposition in (LÉVY and WEILL), A., 880.

Anisylpiperonyl-2-anisylidene-5-methyl- Δ^3 -cyclopenten-1-ones (O'Donoghue, Ryan, and Keane), A., 462.

3-Anisyl-4-piperonyl-5-methyl-42-cyclopenten-1-one (O'Donoghue, RYAN, and KEANE), A., 462.

2-p-Anisylquinoline, 3-amino-, and its picrate and acetyl derivative (Berlingozzi and Burg), A., 674.

2-p-Anisylquinoline-4-carboxylic acid, 3-amino-, and its acetyl derivative (Berlingozzi and Burg), A., 674.

Anisylthiocarbamides (Dyson, George, and Hunter), A., 351. Anisylthiocarbimides (Dyson, George, and Hunter), A., 351. Annatto extract for colouring butter (RAO), B., 954.

Annealing furnaces. See under Furnaces.

Anodes for electro-deposition (Internat. Copperclad Co.), (P.), B., 144.

silicon, valve effect of (AUDUBERT), A., 1145.

tantalum, effect of high voltages on (Dunham), A., 1153.

Anode effect (Schischkin), A., 422.

Anona squamosa, oil from seeds of (GHANEKAR and AYYAR), B., 706.

Anser anser (goose), chemistry of fat of (HEPBURN and KATZ), B., 705.

"Ansolvo-acids" (MEERWEIN), A., 836.

Anthelmintics (WEYLAND and WINTHROP CHEMICAL Co.), (P.), B., 203.

preparation of (Farbenf. vorm. Bayer & Co.), (P.), B., 29. Anthocyanidin tetraacetate (Anderson and Nabenhauer), A., 61.

Anthocyanidins (KARRER, WIDMER, HÜRLIMANN, and NIEVER-GELT), A., 252; (KARRER), A., 1197.

Anthocyanin, absorption spectra of derivatives of (TASAKI), A., 918.

Anthocyanins (KARRER), A., 1197.

synthesis of (Robertson and Robinson), A., 252, 974.

Anthracene, electrolytic oxidation of (FIELD and OWEN), (P.), 541. hydrogenation of (Kling and Florentin), A., 453; (Schroeter and Götzky), A., 1178.

meso-derivatives of (Ingold and Marshall), A., 141; (Bar-NETT, COOK, and NIXON), A., 349.

Anthracene, 4-chloro-1:9-dihydroxy-, and its diacetyl derivative (GREEN), A., 1080.

Anthracene dyes, preparation of (I. G. FARBENIND.), (P.), B., 386. vat, containing nitrogen (I. G. FARBENIND.), (P.), B., 404.

Anthranil, behaviour of, in the animal organism (Hosoda), A., 171. Anthranilic acid, condensation of, with allylthiocarbimide (Rossi), A., 1207.

fate of, in the body (MITSUBA and ICHIHARA), A., 694.

geranyl ester (VERLEY), A., 857. methyl ester, determination of, in grapes (SALE and WILSON), B., 25.

Anthranols, a-hydroxy-, determination of structure of (GREEN), A., 1079.

9-Anthranylmethylpyridinium salts, 1:5-dichloro- (BARNETT, Cook, and Matthews), A., 140.

Anthraquinone, production of (Craver and Barrett Co.), (P.), B., 771.

formation of, by vapour-phase oxidation of toluene and petroleum distillates (Bowen and NASH), A., 1191.

sulphonation of, in presence of mercury (Meyer), A., 463. derivatives (DRESCHER, SMITH, THOMAS, and SCOTTISH DYES), (P.), B., 246.

manufacture of (British Dyestuffs Corp., Shepherdson, TATUM, and BUNBURY), (P.), B., 518; (I. G. FARBENIND.), (P.), B., 518, 743, 838, 903; (BRITISH DYESTUFFS CORP. and Shepherdson), (P.), B., 550; (I. G. Farbenind. and Riedel A.-G.), (P.), B., 597; (Badische Anilin- & Soda-FABRIK and FARBENFARB. VORM. BAYER & Co.), (P.), B., 674; (I. G. FARBENIND. and FARBENFABR. VORM. BAYER & Co.; Perkin, Fyfe, Mendoza, and Brit. Dyestuffs Corp.), (P.), B., 743.

as intermediates and as dyes (HARRIS, WYLAM, THOMAS, and SCOTTISH DYES), (P.), B., 102; (SMITH, THOMAS, and SCOTTISH DYES), (P.), B., 902.

intermediates, manufacture of (BRITISH DYESTUFFS CORP., SHEPHERDSON, TATUM, and BUNBURY; BRITISH DYESTUFFS CORP. and TATUM), (P.), B., 518. nitrites, manufacture of (I. G. FARBENIND. and FARBW. VORM.

Meister, Lucius, & Brüning), (P.), B., 870.

Anthraquinone, 1:4-dichloro- (PHILLIPS), A., 155.

2:6-dichloro- (FIERZ-DAVID, KREBSER, and ANDERAU), A., 464. 1:3-dichloro-2-amino- and chlorobromoamino- (Drescher, SMITH, THOMAS, and SCOTTISH DYES), (P.), B., 246.

di- and tetra-cyano-, and 8-chloro-1:4:5-tricyano- (I. G. FAR-BENIND. and FARBW. VORM. MEISTER, LUCIUS, & BRÜNING), (P.), B., 870.

1:2:5-tri-, and 1:2:5:6-tetra-hydroxy-, and their acetates (Punt-AMBEKER and ADAMS), A., 362.

β-dinitro-, additive compounds of (BÖRNSTEIN, SCHLIEWIENSKY, and Szczesny-Heyl), A., 155.

2:7-dintro-, preparation of (GRASSELLI DYESTUFF CORP. and STEIN), (P.), B., 326.

Anthraquinones, amino-, manufacture of acylated derivatives of (Badische Anilin- & Soda-Fabrik), (P.), B., 326.

dichloro-, formation of, from o-dichlorobenzene (FIERZ-DAVID; PHILLIPS), A., 1079.

chlorohydroxy-, and their acetyl derivatives (Tanaka), A., 566. hydroxy-, reduction products of (Cross and Perkin; Mac-MASTER and PERKIN), A., 771.

manufacture of leuco-derivatives of (I. G. FARBENIND.), (P.), B., 470, 773*.

Anthraquinones, hydroxy-, purgative action of (Fühner and De Dios Fernandes), A., 900.

polyhydroxy- (Puntambeker and Adams), A., 362 Anthraquinone dyes (Bucherer and Maki), A., 1191.

manufacture of (I. G. FARBENIND. and FARBW. VORM. MEISTER, Lucius, & Brüning), (P.), B., 470; (British Dyestuff's Corp., Shepherdson, and Tatum), (P.), B., 771; (Hooley, THOMAS, and Scottish Dyes), (P.), B., 902.

manufacture of intermediates for (BRITISH DYESTUFFS CORP.

and TATUM), (P.), B., 437.

acid (British Dyestuffs Corp. and Tatum), (P.), B., 578. vat (Bucherer and Maki), A., 1191; (Chem. Fabr. Griesheim-Elektron), (P.), B., 68; (I. G. Farbenind.), (P.), B., 211, 387, 901; (Badische Anilin- & Soda-Fabrik), (P.), B., 212; (WOODCOCK, DRESCHER, BECKETT, THOMAS, and SCOTTISH DYES), (P.), B., 437; (FARBENFARB. VORM. BAYER & Co.), (P.), B., 647. application of (WILSON), B., 873.

for wool (I. G. FARBENIND.), (P.), B., 405.

Anthraquinone paste, manufacture of (GROSVENOR, GERSHON, and

GROSVENOR), (P.), B., 597.

Anthraquinone-2-carboxylic acid, 1:3-diamino-, and its derivatives, 1-amino-3-hydroxy-, and its silver salt, and 3-bromo-1-amino-(Locher and Fierz), A., 1191.

Anthraquinone-1-carboxy-m-xylidide (Scholl, Semp, and Stix), A., 676.

Anthraquinonechlorosulphonic acids, and their salts (FIERZ-

David, Krebser, and Anderau), A., 463. Anthraquinonedisulphonic acids, and their salts and derivatives

(Fierz-David, Krebser, and Anderau), A., 463. Anthraquinone-8-sulphonic acid, hydroxylamino- (British Dye-

STUFFS CORP., SHEPHERDSON, and HAILWOOD), (P.), B., 697. Anthraquinonesulphonic acids (WIBAUT), A., 566; (FIERZ-

David), A., 771. and 2-chloro-, and their salts and derivatives (FIERZ-DAVID, KREBSER, and ANDERAU), A., 463.

electrolytic desulphonation of (BRITISH DYESTUFFS CORP. and HAILWOOD), (P.), B., 647.

1-Anthraquinonyl-m-aminobenzoic acid (Weiss and Knapp), A.,

1-Anthraquinonyl-m-toluidine (Weiss and Knapp), A., 259.

Anthraquinonylxylidines (Weiss and Knapp), A., 259.

Anthrarufin, hydroxy-, structure and synthesis of (Puntam-BEKER and ADAMS), A., 363.

Anthrarufin-2:6-disulphonic acid, 4:8-diamino-, sodium salt, elimination of sulphonic acid groups in (MARSCHALK), A., 972.

derivatives of (I. G. FARBENIND. and FARBENFABR. VORM.

BAYER & Co.), (P.), B., 743. Anthrax, aggression for (Jensen, Salsbery, and Graham), (P.),

Antiauxochromes (Wizinger and Fontaine), A., 764.

Anti-detonators, action of (Moureu, Dufraisse, and Chaux), B., 243, 512.

combustible liquids of high organic sulphur content as a source of (Altchidjian), B., 34.

Anti-freezing mixture (SCHULTHEISS), (P.), B., 65.

Antiglyoxalase, separation of trypsin and (Kuhn and Heckscher),

Antiketogenesis (WEST), A., 1173.

Anti-knock materials (GROTE), B., 209.

action of (Egerton and Gates), B., 402, 738; (Taylor), B., 513; (WEERMAN), B., 738.

metallic colloids as (OLIN, READ, and Goos), B., 66.

influence of, in gas-ion oxidation (LIND and BARDWELL), B.,

effect of, on detonation of gas mixtures (EGERTON and GATES), A., 318.

effect of, on ignition of inflammable liquids (TANAKA and NAGAI), B., 5.

Antimony, atomic weight of (Krishnaswami), A., 1120.

Röntgen-ray absorption spectrum of (Chamberlain and Lindsay), A., 1118.

are spectrum of (McLennan and McLay), A., 802.

ionised, series spectrum of (LANG), A., 911.

influence of X-rays on crystallisation of (CAMPA), A., 1130. molten, surface tension of (BIRCUMSHAW), A., 719.

and its alloys with copper, surface tension of (DRATH and SAUERWALD), A., 723.

viscosities of (BIENIAS and SAUERWALD), A., 508.

Antimony, solubility of, in mercury (TAMMANN and HINNÜBER), A., 304.

colloidal, preparation of (GUTBIER, OTTENSTEIN, and ALLAM), A., 933.

recovery of, from alloys (L. and M. MEYER), (P.), B., 528. precipitation of (IPATIEV and NIKOLAIEV), A., 739.

Antimony alloys, analysis of (Vignal), B., 725. with arsenic and lead (ABEL and REDLICH), A., 517.

with bismuth and lead, electrolysis of (KREMANN and TRÖSTER), A., 25.

with copper and tin (Bonsack), A., 418.

with iron, magnetic (ZICKRICK and WESTERN ELECTRIC Co.), (P.), B., 783.

with lead (SCHUMACHER and BOUTON), A., 820. with lead and copper (GEATTY), (P.), B., 847.

with silver, thermal expansion of (DE HEMPTINNE), A., 614. with thallium (BARTH), A., 730.

with tellurium, equilibria of (Endo), A., 720.

Antimony arsenide, selenide, and telluride, conductivity of (PADOA), A., 734.

trichloride, action of, on diazotised diamines (GRAY), A., 143. action of, on dimethylaniline (RAUDNITZ and HELLER), A.,

compound of chlorine and (BILTZ and JEEP), A., 627.

compound of, with nitrosyl chloride (GALL and MENGDEHL), A., 220.

as reagent for vitamin-A (Wokes and Willimott), A., 1223; (Wokes and Barr), B., 569. pentachloride, action of benzoyl peroxide on (REYNHART), A.,

356.

trihydride, formation of, in electrolysis (SAND, GRANT, and LLOYD), A., 317.

pentoxide, hydrates of (Simon and Thaler), A., 510. oxides (Simon and Thaler), A., 730.

lattice structure of (Dehlinger and Glocker), A., 924. density and crystal structure of (Simon), A., 1013.

pentasulphide, precipitated, manufacture of (STARK and STIBIUM PRODUCTS Co.), (P.), B., 787.

Antimonic acid, and its alkali salts (JANDER and BRULL), A., 122.

Antimonic compounds, determination of, iodometrically (Travers and Jouot), A., 334.

Antimony organic compounds (GRAY), A., 143. complex (I. G. FARBENIND.), (P.), B., 125, 573; (HAHL and WINTHROP CHEMICAL Co.), (P.), B., 734.

soluble, preparation of (CHEM. FABR. HEYDEN and SCHMIDT), (P.), B., 203.

with therapeutic value (HAHL and WINTHROP CHEMICAL Co.), (P.), B., 317.

with azo-dyes (Dunning and Reid), A., 65. Antimony detection, determination, and separation :detection of, colorimetrically (EEGRIWE), A., 437.

determination of, volumetrically (WINKLER), A., 1160. determination of, in glass (HEINRICHS and SALAQUARDA), B.,

determination of, in lead (Evans), B., 911.

determination of, in white metals (FITTER), B., 880. determination of, in organic compounds (GRAY), A., 143.

determination of, and its separation from alkali metals (JANDER

and Brüll), A., 640. determination of, and its separation from arsenic and tin

(Schleicher and Toussaint), A., 222. separation of lead and (Akt.-Ges. Für Bergbau, Blei- & Zink-

FABRIKATION and DARIUS), (P.), B., 224. separation of, from tin (Brintzinger and Rodis), A., 1047.

Antimony cathodes. See under Cathodes.

Antimony ores, treatment of (ZINNWERKE WILHELMSBURG), (P.), B., 448.

smelting of (Oesterr. Bamag-Büttner-Werke and Jahn), (P.), B., 705.

Antimony poisoning. See under Poisoning.

Antimony yellow (CHAMBERS and RIGG), B., 44.

Anti-oxygens (Moureu, Dufraisse, and Badoche), A., 28; (Moureu, Dufraisse, and Chaux), B., 243, 512.

action of, on fluorescence (PRIVAULT), A., 609. theory of, and deactivation of molecules (PERRIN), A., 609.

Antipyretics of the thiophen series (STEIDLE), A., 276. Antipyrine, equilibria of, with allylthiocarbamide and with phenylurethane (MAZZETTI), A., 22.

compounds of, with glyoximes (SEMERIA and BOCCA), A., 135.

Antipyrine, compounds of isopropylallylbarbituric acid with (Hoffmann-La Roche & Co.), (P.), B., 829.

additive compound of quinine hydrochloride and (Santesson), A., 64.

methods of analysis of (Borloz), B., 764.

Antipyrine, chloro-, and its salts (EMERY), A., 1203.

Antirachitic radiations, glass screens for transmission of (Luce), A., 283.

substances (Bills and McDonald), A., 487; (Bills), A., 595. Antiscorbutic effect (Bezssonoff), A., 283.

Antiseptics (JAMOTTE), (P.), B., 974. manufacture of (RITSERT), (P.), B., 60.

chlorine, relative behaviour of, with organic matter (REMY),

B., 270. Anti-spasmodics (Leuchs and Winthrop Chemical Co.), (P.), B., 893.

Anti-toxins, relation of power of, to ionisation (Maume and

Dulac), A., 798.

Aorta in infants, deposition of lipins in walls of (Kouble), A., 896. Aphids, relation of size of oil drops to toxicity of petroleum emulsions to (GRIFFIN, RICHARDSON, and BURDETTE), B., 710. Aphis rumicis, toxicity of benzene and naphthalene derivatives and plant products towards (TATTERSFIELD, GIMINGHAM, and Morris), B., 86.

Apigenidin salts (PRATT, ROBERTSON, and ROBINSON), A., 1083.

Apophyllite, dehydration of (CAVINATO), A., 956.

Apples, differences of potential in (JOST), A., 388; (MICHAELIS), A., 704.

relation of mineral constituents to properties of (Brown), B., 731. relation of leaf area to growth of (HALLER and MAGNESS), A., 385.

relation of stored food to cambial activity in (Proebsting), A., 488.

starch content and cambial activity in (SWARBRICK), A., 797. non-volatile acids in (NELSON), A., 798.

nitrogen and carbohydrates in flowers and young fruits of

(HOWLETT), A., 908. pectic materials in (CARRÉ and HORNE), A., 704.

physiology of (Brown), B., 731.

physiology and growth of (ROBERTS), A., 283. detection of, in jam (MUTTELET), B., 122.

Apple leaves, composition of, in lime-induced chlorosis (Wallace and MANN), A., 176.

Apricot kernels, activation of charcoal from (Palkin), B., 289. Apricot kernel oil, Rumanian (MIRCESCU), B., 618.

Aquamarines, synthetic (RIERA), (P.), B., 523.

Aqua regia, conductivity of (BRINER, HEBERLEIN, and ROTHEN), A., 23.

stabilised (Briner), A., 432.

Aquo-ammonocarbonic acids, mixed (PINCK and BLAIR), A., 345. Aquopicratobisethylenediamminocobaltic picrato (DUFF and Brls), A., 1065.

l-Arabinal (Meisenheimer and Jung), A., 858. l(-)-Arabinal (GEHRKE and AICHNER), A., 544.

Arabinose, salts of (Gehrke and Aichner), A., 545.

isomeric lactones from (PRYDE and HUMPHREYS), A., 449.

l-Arabinose osazone, crystallisation of (Thomas and Sibi), A., 935. isopropylidene ether, and its semihydrate (OHLE and BEREND), A., 450.

d-Arabonic acid, barium salt (OHLE and BEREND), A., 647. Arabonolactone, and its benzoates (HASENFRATZ), A., 229.

l-Arabonotrimethoxyglutaric acid, derivatives of (HAWORTH and Jones), A., 1059.

Aragonite, infra-red absorption spectrum of (RAWLINS and

RIDEAL), A., 1006. Aralkylamines, manufacture of, and their derivatives (I. G.

FARBENIND. and A.-G. FÜR ANILIN-FABR.), (P.), B., 572 Aralkylresorcinols, manufacture of (Hirzel and Schilt), (P.), B.,

Aralkyl-3:4-trimethylene-5-pyrazolones, manufacture of (Man-NICH), (P.), B., 869.

Aramayoite, crystal structure of (YARDLEY), A., 190.

from Bolivia (Spencer), A., 225.

Arecoline, preparation of (CHEMNITIUS), A., 1094.

Argentum colloidale, nitricum and proteinicum, preparation of (CHEMNITIUS), B., 124.

Argentum proteinicum. See also Protargol.

Arginase, purification of (EDLBACHER and SIMONS), A., 792. action of, on guanidine derivatives (Poller), A., 992. in liver, effect of conditions on activity of (HINO), A., 173. Arginine, presence of, in the spleen (GULEVITSCH and KAPLANSKI),

determination of (Bonot and Cahn), A., 269.

determination of, and its content in proteins and organs (Fürth and Deutschberger), A., 894.

separation of, from histidine (VICKERY and LEAVENWORTH), A., 546, 1175.

Argon, weight of a litre and atomic weight of (Moles), A., 182. spectrum of (Kahanowicz), A., 2; (Meissner), A., 177.

M-doublet in spectrum of (GROTRIAN), A., 82.

red and blue spectra of (Dorgelo and Abbink), A., 389. resonance spectrum of (Meissner), A., 705.

ultra-violet spectrum of (SAUNDERS), A., 910.

potential gradient for, in the positive column (GÜNTHER-SCHULZE, A., 709. potential difference in positive strata of (Penning), A., 389.

ionisation in (Dorsch and Kallmann), A., 1001.

deformation of ionisation curves of, by addition of oxygen (Da Silva), A., 809.

Compton effect in (KIRCHNER), A., 912.

Geissler discharge in (EMELÉUS and HARRIS), A., 490. diffusion of slow electrons in (Zachmann), A., 1001.

cross-sectional curve of, for slow electrons (BRÜCHE), A., 181; (Brüche, Lilienthal, and Schrödter), A., 1119.

coupling of quantum vectors for (Goudsmit and Back), A.,

ions, heat of condensation of (Compton and Van Voormis), A., 926.

metastable state of (Dorgelo and Washington), A., 490. content of, in the atmosphere (Moles), A., 129.

energy and fugacity of mixtures of othylene and (Gibson and

Sosnick), A., 1027. Aromatic compounds, scattering of light by (BANERJEE), A.,

1127. substitution in the nucleus in (v. AUWERS and BULLMANN),

A., 144. positive halogens attached to carbon in (NICOLET and SANDIN; NICOLET and SAMPEY), A., 868; (NICOLET and RAY;

NICOLET), A., 869. stereochemistry of (Kuhn, Jacob, and Furter), A., 869; (Kuhn

and Albrecht), A., 876. comparison of electron displacement and alternate polarity effects in (BERGER), A., 873.

action of aromatic alcohols on, in presence of aluminium chloride (Huston, Lewis, and GROTEMUT), A., 659.

mercuration of (Coffey), A., 165; (Mameli), A., 268. effect of mercury salts on nitration of (McKie), A., 866.

nitration of, with metallic nitrates (Bacharach), A., 759. pyrogenic dissociation of, under pressure of hydrogen and action of catalysts (IPATIEV and ORLOV), A., 1060.

polynuclear heterocyclic (FAWGETT and ROBINSON), A., 1088. Arsenic, optical properties of (GRISCHKEVITSCH-TROCHIMOVSKI

and Sikorski), A., 614. are spectrum of (McLennan and McLay), A., 802.

glow of (EMÉLIUS), A., 497.

effect of, on copper, with and without oxygen (Hanson and MARRYAT; BLAZEY), B., 280.

refining and separation of oxysalts of tin and (HARRIS), (P.), B., 653.

occurrence of, on fruit after spraying (LENDRICH and MAYER), B., 712.

function of, in soda-lime-silica glass (FIRTH, HODKIN, TURNER, and Winks), B., 653.

in tobacco (REMINGTON), A., 798.

precipitation of (IPATIEV and NIKOLAIEV), A., 739. Arsenic alloys with antimony and lead (ABEL and REDLICH),

Arsenic compounds, production of (RUSHTON), (P.), B., 629.

anti-coagulant power of (LEFROU), A., 277. in marine crustaceans and shellfish (Charman), B., 25.

Arsenic tribromide, electrical conductivity of mixtures of ethyl ether and (Ussanowitsch), A., 315.

trichloride, action of, on dimethylaniline (RAUDNITZ and HELLER), A., 454.

trihalides, compounds of sodium azide with (Vournazos), A., 842. pentoxide (arsenic anhydride), hydrates of (Simon and Thalen),

A., 511. determination of, as magnesium ammonium arsenate

(McNabb), A., 745.

Arsenic:-

Arsenious acid, adsorption of, by precipitated ferrie hydroxide (SEN), A., 408.

influence of, on respiration and fermentation (DRESEL), A., 73.

determination of, volumetrically, with permanganate (CAN-TONI), B., 10.

Arsenites, reaction of permanganates with (ORYNG) A., 742.

Arsenious-arsenic acid, potential of solutions of (Foerster and Pressprich), A., 734.

Arsenic acid, manufacture of (Ambruster), (P.), B., 42; (Piver), (P.), B., 217; (Suverkrop), B., 249. production of, by oxidation (ASKENASY, ELÖD, and ZIELER),

A., 635. second dissociation constant of (SKRABAL and ZAHORKA),

action of, on gallic acid (ILJIN), A., 151.

determination of, iodometrically (Ormont), A., 331; (Rosen-THALER), A., 745.

Arsenates, reduction of, by sodium hyposulphite (FARMER and FIRTH), A., 950.

complex (Rosenheim and Thon), A., 1156.

determination of, colorimetrically (ATKINS and WILSON), A., 36.

determination of, iodometrically (K. and W. BÖTTGER), A., 222.

determination of, with molybdenum blue (Denices), A., 1156. Arsenic trisulphide, constitution of (CHAUDHURY and KUNDU), A., 412.

sols, influence of dielectric constant of a medium on coagulation of, by electrolytes (MUKHERJEE, CHAUDHURY, and MUKHERJEE), A., 413.

coagulation of, by barium chloride (RABINOVITCH), A., 624. Arsenic organic compounds (MATSUMIYA and NAKAI), A., 164; (MATSUMIYA and NAKATA), A., 785; (BINZ and RÄTH), A., 890; GRISCHKEVITSCH-TROOHIMOVSKI, MATEYAK, and ZABLOTSKI), A., 1210; (CASSELLA & Co.), (P.), B., 125; (DEUTSCHE GOLD-& Silber-Scheideanstalt vorm. Roessler), (P.), B., 429; (LEHNHOFF-WYLD), (P.), B., 573; (STICKINGS and MAY & BAKER), (P.), B., 925.

Grignard synthesis of (GRISCHKEVITSCH-TROCHIMOVSKI and Zambrzycki), A., 233.

aliphatic aromatic (PALMER and EDEE), A., 579. heterocyclic (EWINS, NEWBERY, and STICKINGS), A., 577; (DEUTSCHE Gold-SILBER-SCHEIDEANSTALT VORM, ROESSLER), (P.), B., 670.

Arsenic detection, determination, and separation: detection of, with sodium hypophosphite (MATTHES), A., 36. paper strips for determinations of, by the Gutzeit test (GREEN), Ā., 436.

tervalent, determination of (L. A. and J. Deshusses), A., 744. determination of, with a mercury cathode (Aumonier), B., 813. determination of, nephelometrically (Delaville and Belin), A., 376; (DENIGES), A., 600; (KLEINMANN and PANGRITZ), A., 800.

determination of, volumetrically (WINKLER), A., 1160.

determination of, in solution of arsenious and mercuric iodides (SCHULZE), A., 126. determination of, in arsenobenzenes (SENSI), B., 171.

determination of, in glass (Heinrichs and Salaquarda), B., 189.

determination of, in insect tissue (Fink), A., 600.

determination of, in insecticides (François and Séguin), B., 974.

determination of, in lead (Evans), B., 911.

determination of, in volatile liquids (FAUST and FISCHER), A., 125.

determination of, in organic compounds (Pogoi and Polverini), A., 66.

determination of, and its separation from antimony, arsenic and tin (Schleicher and Toussaint), A., 222. separation of tin and (VULCAN DETINNING Co. and LAHEY),

(P.), B., 116*. Arsenic ores, smelting of (OESTERR. BAMAG-BÜTTNER-WERKE and JAHN), (P.), B., 705.

Arsenoacetic acid, derivatives of (PALMER and EDEE), A., 580. Arsenobenzene, complex metallic compounds of (I. G. FARBEN-IND.), (P.), B., 203*.

Arsenobenzene, diaminodihydroxy-, preparation of solutions of derivatives of (MacEwen), (P.), B., 203*, 619.

Arsenobenzene, 3:3'-diamino-4:4'-dihydroxy-, sodium salt, manufacture of (Kober), (P.), B., 398.

manufacture of sugar derivatives of (Anderson and Boots

Pure Drug Co.), (P.), B., 173*.

Arsenobenzenes, solutions of (Raiziss, Kremens, and Abbott LABORATORIES), (P.), B., 172. toxicity of, and determination of arsenic therein (SENSI),

B., 171.

analysis of (PATTA), B., 266.

Arsenobenzene-4'-glycinamides, aminohydroxy- and 3:5-diamino-4-hydroxy- and their acetyl derivatives (Newbery, Paxon, and MAY & BAKER), (P.), B., 507.

Arseno-bismuth compound, preparation of (RAIZISS, KREMENS, and Abbott Laboratories), (P.), B., 268.

Arseno-compounds, organic production of (BINZ and RÄTH). (P.), B., 829.

5:5'-Arsenopyridine, 2:2'-diamino-, tetrahydrochloride, 2:2'-dihalogeno-, 3:3'-dihalogeno-2:2'-dihydroxy-, and 2:2'-dihydroxy-(Binz and Räth), A., 890.

5:5'-Arsenoisoquinoline (BINZ and Räth), A., 580.

5:8-Arsenoquinoline (Deutsche Gold- & Silber-Scheidean-STALT VORM. ROESSLER), (P.), B., 670.

Arsenoquinolines, dihydrochlorides of, and 2:2'-dihydroxy-(BINZ and RÄTH), A., 580.

Arsenoxides, aromatic (Benda, Sievers, and I. G. Farrenind.), (P.), B., 860*.

Arsinic acids, aromatic, constitution and therapeutic action of (Fourneau, Tréfouel, and De Lestrange-Trévise), A., 73. Arsinoacetie acid, compounds of pyrocatechol and (England),

Arsinosoquinine, chloro- (ERBEN and PHILIPPI), A., 265.

Arsphenamine. See Salvarsan.

Artemisic acid, fusion of, with potassium hydroxide (Bertolo), A., 149.

Arterial hypertension, manufacture of substances for reducing (Macdonald), (P.), B., 670.

Artichokes, Jerusalem, n-butyl alcohol and acctone from (THAYSEN and GREEN), B., 375.

Arum italicum, colouring matter from (KYLIN), A., 669.

Arumin (KYLIN), A., 669.

Aryl alkyl ethers, nitro-, manufacture of (PRATT, WELTZ, MILLS, and Du Pont de Nemours & Co.), (P.), B., 398.

1-Aryl-2-alkyl-3:4-trimethylene-5-pyrazolones, manufacture of (Mannich), (P.), B., 869.

Arylamides (Well), A., 240.

Arylamines, manufacture of (Hale, Britton, and Dow Chemical Co.), (P.), B., 101.

primary, reaction of sulphur chloride with (HERZ and GRASSELLI DYESTUFF CORP.), (P.), B., 773.

substituted, reactivity of the amino-group in (Dyson, George, and Hunter), A., 350. mono- and di-alkylated, separation of (BRIT. DYESTUFFS CORP.,

EVERATT, and RODD), (P.), B., 648. Arylamines, nitro-, determination of amino-group in (SEMI-

GANOVSKY), A., 1062.

5-Arylaminothiophenols, 2-amino-, manufacture of, and dyes therefrom (Cassella & Co.), (P.), B., 325.

meso Arylanthracenes (BARNETT, COOK, and WILTSHIRE), A., 881. Arylarsenious oxides, amino-, manufacture of (Newbery and MAY & BAKER), (P.), B., 29.

Arylarseno-compounds, asymmetrical, manufacture of (Newbery, PAXON, and MAY & BAKER), (P.), B., 507.

manufacture of acylated amino-derivatives of (Newbery and MAY & BAKER), (P.), B., 507.

Arylarsenoacetic acids (PALMER and EDEE), A., 579.

Arylarsinic acids, bismuth salts, manufacture of solutions of (HAYTHORNTHWAITE and MAY & BAKER), (P.), B., 892.

basic bismuth salts, manufacture of (STICKINGS and MAY & BAKER), (P.), B., 349.

water-soluble derivatives from (I. G. FARBENIND.), (P.), B.,

Arylazophenanthrols, metallic compounds of (CRIPPA and VENTURINI), A., 1180.

Aryldichloroarsines, amino-, manufacture of (Newbery and MAY & BAKER), (P.), B., 29.
Arylhydrazines, action of bromocyclohexane with (Busch and

HAASE), A., 554.

action of cyclohexyl bromide on (Busch and Becker), A., 761. Arylhydroxylamines, nitroso-, and their salts (BIGIAVI and Franceschi), A., 758.

Arylnitrosohydroxylamines, preparation of (Bigiavi), A., 142. Arylpropionic acids, o-amino-, manufacture of (I. G. FARBENIND. and FARBW. VORM. MEISTER, LUCIUS, & BRÜNING), (P.), B., Arylperipyrrolinoanthranolazyls (SCHOLL, STIX, and SEMP), A., 885. Arylseleninic acids (Porritt), A., 267. Arylstibinic acids, water-soluble derivatives from (I. G. FAR-BENIND.), (P.), B., 286. p-Arylsulphonazophenols (Borsche and Frank), A., 50.
Arylsulphonic acids, alkylated, manufacture of (I. G. Farbenind. and Farbw. vorm. Meister, Lucius, & Brüning), (P.), B., 470; (I. G. FARBENIND.), (P.), B., 743. Arylsulphonyl chlorides (GEBAUER-FÜLNEGG and RIESENFELD), A., 139. 1-Aryl-3:4-trimethylene-5-pyrazolones, manufacture of (MANNIOH), (P.), B., 869. Asarum caudatum (wild ginger), constituents of (Burlage and Lynn), A., 799; (Lynn and Cheno), B., 316. Asbestos, centrifugal apparatus for collection of, during manufacture (Asbestos Corp.), (P.), B., 928. acid resistance of (Calmon), B., 439. manufacture of hard bodies from (SIEMENS & HALSKE), (P.), B., 389. Capo blue. See Crocidolite. "Ascarite" as adsorbent for carbon dioxide (Buck), A., 129. Asclepias syriaca, sterols from (SCHMID and LUDWIG), A., 1194. sterol-like substance from (SCHMID and STORR), A., 248. Asparagine, rotatory dispersion of, in the ultra-violet (Liquier and DESCAMPS), A., 295. enzymic deamination of, in plants (GROVER and CHIBNALL), A., 907. Asparagus, utilisation of nitrogen by, in the dark (Nightingale and Schermerhorn), A., 384. Aspartic acid, double salts of (Anslow and King), A., 1175. esters, rotation of (MAZZA and DELLO JOJO), A., 500. ethyl ester, dispersion and rotation of (PAGLIARULO), A., 610. Aspergillin, nitrogen content of (RIPPEL and WALTER), A., 906. Aspergillus niger (Sterigmatocystis niger), respiration of (HEE), A., 279. necessity of carbon dioxide for growth of (RIPPEL and BORTELS), A., 597. acid production by (AMELUNG), A., 703. fatty acids produced by, in relation to temperature (Pearson and RAPER), A., 906. formation of organic acids from sugars by (Challenger, SUBRAMANIAM, and WALKER), A., 228, 593. action of iron, zinc, and copper on (Borrels), A., 485. phosphorus compounds of mycelium of (Vorbroot), A., 1228. Aspergillus oryzæ, conditions of growth of (Tamiya), A., 906. Asperuloside, extraction of, from Gallium verum (Hérissey), A., 1116. identity of rubichloric acid with (Hérissey), A., 386. Asphalt, micelles of, structure of (Nellensteyn), B., 739. manufacture of, in finely-divided condition (BATAAFSCHE Petroleum Maatschappij and Moser), (P.), B., 100. production of, from acid sludge from mineral oils (Schmitz; HUGEL), B., 385. wetting power and surface tension of (Nellensteyn), B., 132. use of, in photography (WADSWORTH WATCH CASE Co.), (P.), B., 542. substitute for (Drescher), (P.), B., 404. manufacture of pressed compositions of (JACHZEL), (P.), B., compressed, material resembling (Schroder), (P.), B., 412. German and Mexican, comparison of qualities of (ROSNER), B., 721. hard, determination of, in mineral oils (Marcusson), B., 402; (Bourgom), B., 594. determination of softening point of (Mallison), B., 742. detection of coal tar in (SAUERBIER), B., 642. Aspirin. See o-Acetoxybenzoic acid. Astrakhanite, preparation of (Kölichen and Althammer), B., 479. Asymmetry, biochemistry of (Neuberg and Simon), A., 379. Atmosphere, disperse systems in (STAGER), A., 823. solid nitrogen in (Pelzer), A., 801.

ozone in (Dobson, Harrison, and Lawrence), A., 439;

(CLAYTON), A., 850; (CABANNES and DUFAY), A., 1164.

of Bombay, radioactive products in (Кнамвата), A., 1120.

Atmosphere. See also Air. Atoms, Bohr's theory of, in relation to coloration of ions (Maonanini), A., 185. structure of, in relation to light emission (Stark), A., 710. in co-ordination compounds (LESSHEIM, MEYER, and SAMUEL), A., 921. electron structure of (Sommerfeld), A., 88; (Lessheim and Samuel), A., 88, 494; (Smith), A., 1010. octet structure of, in relation to ionisation (Noves), A., 814. lattices and dimensions of (Morse), A., 611. model of (Langworthy), A., 290. pendulum orbits in models of (LINDSAY), A., 808. Main Smith-Stoner scheme of building of (Saha and Ray), А., 394; (Sана), А., 705, 807. calculation of diameters of, from photo-electric data (Gapon), nuclei of (RUTHERFORD), A., 710. polarisation of, in relation to origin of γ-rays (Kuhn), A., 915. radii of (Huccins), A., 95. orbital planes in (HIRATA), A., 5. physics of (Richardson), A., 489. prediction of physical properties of (Pauling), A., 394. synthesis and disintegration of (HARKINS and SHADDUCK), A., 87, 183. disintegration of (Piccardi), A., 1002. at high pressures (Bridgman), A., 183. determination of mass of particles from (STETTER), A., 4. charge on, before light emission (RUPP), A., 1002. magnetic moment of (Ferrier), A., 709. deflexion of, in a magnetic field (Rodebush), A., 392. variation of the form factor of, with scattering power (Greenwood), A., 501. action of radiation and perturbations on (SLATER), A., 495. ionisation of, by electrons (Penning; Lawrence; Smyth, Harnwell, Hogness, and Lunn), A., 85. configuration of protons in (STINTZING), A., 88. homopolar combination of (REMY), A., 94. effect of intense light on energy levels of (RUARK), A., 290. quantum mechanics of (Heisenberg), A., 290; (Unsold), A., 291. mechanics of, and their magnetic moments (Schrödinger; FERMI), A., 88. dynamics of (BRAMLEY), A., 89. effects of, on reactivity and strength of linkings of molecules (TIFFENEAU), A., 129. heavy, calculation of fields of (Thomas), A., 290. energy of binding of (MILNE), A., 914. K-ionised, K-series emission by (MARTIN), A., 803. neutral, wave mechanics of (HEITLER and LONDON), A., 923. radioactive. See Radioactive atoms. Atomic number in relation to structure (PICCARDI), A., 394. Atomic theory (Mark), A., 87. Atomic volume. See under Volume. Atomic weight of antimony (Krishnaswami), A., 1120. of argon (Moles), A., 182. of boron (Briscoe, Robinson, and Smith), A., 392. of chlorine (ZINTL and GOUBEAU; HÖNIGSCHMID, CHAN, and BIRCKENBACH), A., 806. from potassium salts of Alsace (GLEDITSCH), A., 493. of nitrogen (Baxter and Starkweather), A., 194; (Moles; Moles and Clavera), A., 1120. potassium (Hönigschmid and Goubeau; Zintl and GOUBEAU), A., 806. of scandium (SMITH), A., 806. of silver (Brauner; Baker and Riley), A., 289, 493; (Hönigschmid, Zintl, and Thilo; Zintl and Goubeau), A., 806; (Loring), A., 999. of titanium (BANTER and BUTLER), A., 86. of yttrium (Hönioscimid and v. Welsbach), A., 915. Atomic weights, accuracy of determination of (Moles), A., 1120. report of the German committee on (Bodenstein, Hahn, Hönicschmid, and Meyer), A., 182. Atomisation of solutions of electrolytes (BÜHL), A., 1033. of liquids (NESTLÉ & ANGLO-SWISS CONDENSED MILK Co.), (P.), B., 242. of liquid and semi-liquid materials (WREESMAN), (P.), B., 689. of solid materials (GOLDSCHMIDT A.-G. and KOHLSCHÜTTER), (P.), B., 463.

Atomisers for liquids (THEISEN), (P.), B., 241.

for corrosive liquids (MARTIN), (P.), B., 801.

Atophan. See 2-Phenylquinoline-4-carboxylic acid. Atropa belladonna, British Columbian, alkaloid content of (CLARK and WINTER), B., 504.

Atropine, preparation of (Chemnitius), B., 669.

additive compound of carbon suboxide with (DIELS and Hansen), A., 40.

determination of (PALKIN and WATKINS), B., 266.

determination of, by ether extraction (Schousen), A., 982. determination of, in pills (Ehrismann), B., 891.

Attraction theory, interionic, of Debye and Hückel (CHAPMAN), A., 1028; (HARTLEY and BELL), A., 1032.

Aucubin, and bromo-, and their derivatives (BERGMANN and Michalis), A., 545.

Auric oxide. See under Gold.

Aurin, absorption spectrum of (ORNDORFF, GIBBS, MCNULTY, and Shapiro), A., 764.

Auro-mercapto-acids, and their salts, manufacture of (CHEM. FABR. SCHERING), (P.), B., 349.

Aurora, green line in spectrum of (VEGARD), A., 91, 285; (KEYS), A., 179; (RAYLEIGH), A., 489.

Aurous oxide. See under Gold.

Austenite, effect of tempering on composition of (Dowdell and HARDER), B., 604.

decomposition of, during quenching (DOWDELL and HARDER), B., 413.

in liquid oxygen (HARDER and DOWDELL), B., 679. X-ray studies on (HARDER and DOWDELL), B., 724.

effect of stress on (Downell and Harder), B., 631.

retained, transformation of, into martensite (Honda and Iwasé), B., 558, 679.

Australol, constitution of (EARL and TRIKOJUS), A., 52.

Auto-digestion (Necheles and Fernando), A., 174. Autoheterolysis of animal and vegetable material (Kahn, Le BRETON, SCHAEFFER, and Soc. Franc. Prod. ALIMENT.

Azotés), (P.), B., 171. Autolysis, effect of Röntgen rays on (HERZGER), A., 697.

of organs (Steppuhn and Duret-Delage), A., 483. phosphorus compounds during (Rona and Mislowitzer), A., 590.

Autoxidation (Moureu, Dufraisse, and Badoche), A., 28; (Backström), A., 1181; (Moureu, Dufraisse, and Chaux), B., 243, 512.

of treated combustible as cause of "knock" in motors (Moureu, DUFRAISSE, and CHAUX), B., 692.

Auxochromes (Valiaschko), A., 396; (Wizinger and Fontaine), A., 764.

Avena sativa (oats), glutelin of (CSONKA), A., 1227.

Avitaminosis, effect of active iron compounds on (Suski), A.,

effect of sodium hydrogen carbonate or iron oxide on (Banerjee), A., 382.

with respect to vitamin-B in relation to carbohydrates in diet (Randoin and Lecoq), A., 796.

with respect to vitamin-C, alkali reserve and hydrogen-ion concentration in (Mouriquand, Leulier, and Sédallian), A., 1224.

Azelaic acid, conditions of formation of, from ricinoleic acid (VERKADE), A., 447.

Azeotropic mixtures (Fuchs), A., 617. binary (Lecat), A., 14, 617, 819, 1133.

Azides, molecular structure of (ANGELI), A., 1063.

acid, rearrangement of (Jones and Mason), A., 1185.

determination of (COPEMAN), B., 926.

o-Azidoacetophenone, derivatives of (Meisenheimer, Senn, and ZIMMERMANN), A., 1077.

β-Azidoethyl nitrate (Bergeim and Du Pont de Nemours & Co.), (P.), B., 380.

Azidodithiocarbonic acid, and its salts (Browne, Audrieth, and Mason), A., 430.

ammonium and tetramethylammonium salts (Audrieth, SMITH, BROWNE, and MASON), A., 1044.

1:10-Azimino-5:5-diphenylcarbazine, mono- and di-nitro-, and 7-nitro-1-amino- (Kehrmann and Rohr), A., 1206.

1:10-Azimino-5:5-dinitrodiphenylcarbazine, 3:7-dinitro- (Kehr-MANN and ROHR), A., 1206. Azines, catalytic hydrogenation of (TAIPALE), A., 260.

Azine dyes, manufacture of (I. G. FARBENIND.), (P.), B., 772. and their intermediates, manufacture of (I. G. FARBENIND.), (P.), B., 808.

from naphthalene (Kehrmann and Perrot), A., 261.

Azobenzene, manufacture of (Bors), (P.), B., 924.

Azobenzene, 4:4'-diamino-, formula of, and its derivatives (SIRCAR and DE), A., 50.

3:5-dibromo-4:4'-dihydroxy-, 2:2'-dihydroxy-, 2:2'-diacetyl derivative, and 3-nitro-4:4'-dihydroxy- (Bigiavi and Guarducci), A., 454.

2:4:4'-trihydroxy- (Borsche and Frank), A., 51.

Azobenzene-4'-stibinio acid, 4-hydroxy-, 4-hydroxy-3-amino-, 4-hydroxy-2-chloro-, and 4-hydroxy-2-nitro-, and their disodium salts (Dunning and Reid), A., 65.

Azo-compounds, action of aldehydes on (Bigiavi), A., 459.

metallic derivatives of (CRIPPA), A., 1063.

sulphites of (King), A., 1180.

Azo-compounds, o-amino- and o-hydroxy-, metallic derivatives of (CHARRIER and BERETTA), A., 237.

hydroxy-, spectrochemistry of (UEMURA, YOKOJIMA, and TAN), A., 238; (UEMURA, YOKOJIMA, and ENDO), A., 291, 396; (UEMURA and TABEI), A., 1006, 1124.

p-hydroxy-, relationship between quinonehydrazones and (BORSCHE and FRANK), A., 50.
1:1'-Azodiphenylearbazine, 3:7:3':7'-tetranitro- (Kehrmann and

ROHR), A., 1206.

Azo-dyes (I. G. FARBENIND.), (P.), B., 69, 212, 213, 275, 325, 359, 404, 646; (BRITISH DYESTUFFS CORP., MENDOZA, and SAUNDERS), (P.), B., 101; (OESOH and NEWPORT Co.), (P.),

B., 135; (Soc. CHEM. IND. IN BASLE), (P.), B., 325, 360. manufacture of (WAGNER, LANGBEIN, BECK, THIESS, and GRASSELLI DYESTUFF CORP.), (P.), B., 183*; (CHEM. FABR. GRIESIEIM-ELEKTRON), (P.), B., 275; (FARBENFABR. VORM. BAYER & Co.), (P.), B., 325; (I. G. FARBENIND. and AKT.-GES. FÜR ANILIN-FABR.), (P.), B., 550; (I. G. FARBENIND. and Farbw. vorm. Meister, Lucius, & Brüning), (P.), B., 597, 743, 837, 901; (Wagner and Grasselli Dyestuffs Corp.), (P.), B., 771; (I. G. Farbenind. and Farbenfabr. vorm. Bayer & Co.), (P.), B., 808.

and intermediates (BRITISH DYESTUFFS CORP., SAUNDERS,

and MENDOZA), (P.), B., 8.

and their lakes insoluble in water (I. G. FARBENIND, and CHEM. FABR. GRIESHEIM-ELEKTRON), (P.), B., 697.

from aminodiphenylene oxide (GLIETENBERG and GRASSELLI DYESTUFF CORP.), (P.), B., 627. from barbituric acid (Soc. Chem. Ind. in Basle), (P.), B., 69*.

from intermediate compounds (BRITISH DYESTUFFS CORP., BADDILEY, CHORLEY, and BRIGHTMAN), (P.), B., 869.

from 2-naphthol-3-carboxylarylamides (I. G. FARBENIND.), (P.), B., 469.

from 6-nitro-2-amino-p-cymene (Wheeler and Harris), A.,

containing metal (Soc. CHEM. IND. IN BASLE), (P.), B., 674. containing antimony (DUNNING and REID), A., 65.

containing chromium (Soc. CHEM. IND. IN BASLE), (P.), B., 40, 404, 469, 551*.

copper compounds of (LEAMING and NATIONAL ANILINE & CHEMICAL Co.), (P.), B., 325.

oxidation of (SEYEWETZ and CHAISE), B., 696. for acetate silk (Soc. CHEM. IND. IN BASLE), (P.), B., 869.

for dyeing cellulose esters (CHEM. WORKS, FORMERLY SANDOZ), (P.), B., 469.

for wool (FARBW. VORM. MEISTER, LUCIUS, & BRÜNING), (P.). B., 292.

production or development of (Bucherer), (P.), B., 869.

production of combined shades of vat dyes with, on vegetable fibre (I. G. FARBENIND.), (P.), B., 874*.

production of, on silk (I. G. FARBENIND. and CHEM. FABR. GRIESHEIM-ELEKTRON), (P.), B., 553.

manufacture of intermediates for (British Synthetics and Higgins), (P.), B., 102, 437, 551.

blue (CACCIA), (P.), B., 135. finely-divided, manufacture of (I. G. FARBENIND.), (P.), B., 837.

insoluble, manufacture of (I. G. FARBENIND.), (P.), B., 902. mordant (BRITISH DYESTUFFS CORP., SAUNDERS, and GOOD-WIN), (P.), B., 325; (DURAND & HUGUENIN), (P.), B., 771.

new (BRITISH DYESTUFFS CORP., BADDILEY, and HILL; BRITISH DYESTUFFS CORP., BADDILEY, CHORLEY, and Brightman), (P.), B., 518.

water-insoluble, manufacture of (FARBENFABR. VORM. BAYER & Co.), (P.), B., 275. water-soluble (CHEM. FABR. GRIESHEIM-ELEKTRON), (P.),

yellow, manufacture of (I. G. FARBENIND.), (P.), B., 135.

Azo-dyes, hydroxy-, constitution of (Blumberger), A., 142. Azo-ester reaction (DIELS and ALDER), A., 159. Azocyclohexane, 1:1-dicyano- (Hartmann), A., 455.
Azoimide (hydrazoic acid; hydronitric acid), preparation of solutions of, from its alkali salts (Deutsche Gasglühlicht-AUER-GES. and EINIG), (P.), B., 330. synthesis by means of (OLIVERI-MANDALA), A., 162. determination of, volumetrically (MARTIN), A., 1046. 4:5'-Azoindazole, 5-hydroxy-, and its triacetyl derivative (FRIES and TAMPRE), A., 783. Azolotls, application of metamorphosis of, to assay of thyroxine (B. M. and E. V. ZAVADOVSKY), A., 1115. Azomethane, decomposition of (RAMSPERGER), A., 425, 737; (Lewis), A., 835. Azomethines, dicyclic, and their congeners (Morr), A., 1074. 2:2'-Azopyridine, and its salts (KIRPAL and REITER), A., 466. Azoquinoline, hydroxy-, derivatives (Berlingozzi), A., 675. Azotobacter, development of, in cultures containing phosphates (NIKLAS, SCHARRER, and STROBEL), B., 88. Azotobacter agile, fixation of molecular nitrogen by (Kostytschev, RISKAL'CHUCK, and SHRETZOVA), A., 593. Azoxines (Goldstein and Radovanovitch), A., 63. p-Azoxyanisole, anisotropic, melting of (KAST), A., 498. crystal structure and dielectric properties of (Kast), A., 816. effect of pressure on crystallisation temperature of (Pushin and Grebenshchikov), A., 101. Azoxybenzene, 4:4'-dihydroxy-, derivatives of (Bigiavi and Guarducci), A., 455. Azoxybenzenes, p-nitro-, and their bromo-derivatives (Angelt and Bigiavi), A., 1062. Azoxybenzene-p-carboxylic acids (BIGIAVI and SABATELLI), A., 1180. p-Azoxybenzonitrile (NISBET), A., 1063. p-Azoxybenzyl alcohol (Shoesmith and Taylor), A., 50. Azoxybenzyl bromides (SHOESMITH and TAYLOR), A., 50. p-Azoxybenzylidene-p-aminoacetophenone (NISBET), A., 1063. p-Azoxybenzylideneaniline (NISBET), A., 1063. p-Azoxybenzylidene-p-toluidine (NISBET), A., 1063. Azoxy-compounds, relationships of aromatic nitro-compounds with (Bigiavi), A., 553. p-Azoxy-compounds, preparation of (NISBET), A., 1063. p-Azoxy-2-nitro-4'-dimethylaminostilbene (NISBET), A., 1063.

p-Azoxy-2-nitro-4'-methoxystilbene (NISBET), A., 1063. p-Azoxy-2:6-dinitro-4'-methoxystilbene (NISBET), A., 1063. p-Azoxy-2-nitro-3':4'-methylenedicxystilbene (Nisbet), A., 1063. p-Azoxy-2-nitrostilbene (NISBET), A., 1063. p-Azoxydinitrostilbenes (NISBET), A., 1063. p-Azoxystilbene (NISBET), A., 1063.

B. Babbitt metal, analysis of (MINTZ, LYUBIN, and ZILBERMAN), B., Bacilli, action of chlorine on (DIENERT and ETRILLARD), A., 1114. diphtheria, ammonium sulphate precipitation of active principle of (Watson and Langstaff), A., 485. Friedländer's, hydrolysis of specific polysaccharide from (Goebel), A., 1114. Kephir, preparation of a baked product containing (STAUFFER), (P.), B., 265. of the Salmonella group, differentiation of (Wokes and IRWIN), tubercle, constituents of (Anderson), A., 1114. effect of vitamin-B on (Uyer), A., 903. analysis of (Johnson and Coghill), A., 1222. typhoid, growth of (Doskočil), A., 1222. Bacillus amylobacter (CUNNINGHAM and JENKINS), B., 232. Bacillus coli aërogenes, fermentation of cellobiose by (Koser), A., fermentation of sugars by (VIRTANEN and SIMOLA), A., 701. neutral-red-lactose-peptone medium for (Georgia and Morales), B., 62.

Bagasse, treatment of (ISTELLI), (P.), B., 952. as fuel (HUTCHESON), B., 311. of sugar-cane, extraction of pure cellulose from (VALET), (P.), B., 839*. Bagasse board, manufacture of (Mason), (P.), B., 473. Bagasse fibres, retted, production of (LATHROP, MUNROE, and DAHLBERG & Co.), (P.), B., 774. Bakery produce, preparation of (SCHMITT), (P.), B., 732. Baking powder, preparation of (I. G. FARBENIND.), (P.), B., 504. in (HERD), B., 875. Baking tests (DUNLAP; BLISH), B., 396. experimental, factors affecting interpretation of (BLISH and SANDSTEDT), B., 761. Balance for measurement of differences in gravity ("Explor-ATION " (P.), B., 959. Bacillus coli communis, oxidation-reduction potential of, and its micro-, Kuhlmann (Schwarz-Bergrampf), A., 34. media (Aubel and Genevois), A., 993. recording hydrostatic (TRYHORN and WYATT), A., 641. Balanocarpus Heimii. See Dammar penak. reduction of l-eystine by (YAO1 and HOSONA), A., 380. decomposition of hexosophosphates by (MANNING), A., 484. Balata, structure of (MIEDEL), B., 789. detection of, in water (EGGER and MAIER), B., 622. treatment of (SMITH and GOODYEAR TIRE & RUBBER Co.), determination of (LAUTER), B., 62. (P.), B., 229.

Bacillus Delbrücki, action of, on methyl- and phenyl-glyoxals (NEUBERG and SIMON), A., 903. Bacillus lactis aërogenes (Hetler), A., 593.

action of, on methyl- and phenyl-glyoxals (Neuberc and SIMON), A., 903. Bacillus prodigiosus, action of Röntgen rays on (TRILLAT), A.,

Bacillus tuberculosis, nutrition of (FROUIN and GUILLAUMIE), A., 281.

Bacillus vulgatus, formation of vitamin-B by (Scheunert and Schieblion), A., 595.

Bacteria, study of (Johnson), A., 175.

manufacture of preparations of (LANDMAN), (P.), B., 90. treatment of, and their products and toxins (LILLY & Co.), (P.), B., 670.

action of neon lamp on (PHILIBERT and RISLER), A., 281. chemistry of (Hetler), A., 593.

age of, and their staining with aniline dyes (Churchman), A.,

nutrition of (Whitehead), A., 77.

carbon dioxide in (ROCKWELL and HIGHBERGER), A., 903. enzymic metabolism of (NICOLAI), A., 77; (RONA, NACHMAN-SOHN, and NICOLAI), A., 994.

effect of gelatin on growth of (Platt), A., 280.

inhibition of growth of, by silver salts (Andresen), A., 1110. action of reagents on (QUASTEL and WOOLDRIDGE), A., 1113.

action of fatty acids and soaps on (SEDALLIAN and VELLUZ), A., auto-elimination of ammonia from cultures of (BERTHELOT and

Amoureux), A., 1114. formation of carbamide by (Ivanov and Smirnova), A., 379.

action of, on coal (Fuchs), B., 929. decomposition of illuminating gas and carbon monoxide by (Hasemann), A., 701.

production of hydrogen sulphide by (MULSOW and PAINE; ALMY and JAMES), A., 593.

alcohol-soluble proteins in (Goadby), A., 1222. antagonism of (Arnaudi, Kopaczewski, and Rosnowski), A.,

chemotherapy of infection by (WALKER and SWEENEY), A., 991. anti-substances for fighting diseases caused by (Räth), (P.), B., 619.

cellulose-decomposing (ITANO), B., 151.

in milk (van den Burgh; Kelly), B., 425.

nitrogen-fixing, symbiosis of maize and (TRUFFAUT and BEZSsonoff), A., 280.

resting, effect of changes in environment on (QUASTEL and WOOLDRIDGE), A., 280. soil, staining of (CONN), B., 263.

thermophilic, from soils (Feirer), B., 150.

Bactericides (VER. FÜR CHEM. & MET. PROD.), (P.), B., 499. Bacterins, adaptation of bactericidal action of chloroform to preparation of (BUNYEA), B., 888.

Bacterium pruni, products formed in milk by (Jodidi), A., 794. Badan roots, constituents of (FREY and LEINBACH), B., 636. leaching of (PAVLOVITSCH), B., 230.

Baddeleyite, crystal structure of (YARDLEY), A., 190.

determination of neutralising value of acid calcium phosphate

BODENUNTERSUCHUNGS- & VERWERTUNGS-GES.),

Balata, improvement of (FELTEN & GUILLEAUME CARLSWERK), (P.), B., 824.

oxidation of (DAWSON and PORRITT), B., 341.

manufacture of solid resin from semi-fluid resinous matter extracted from (CRAVEN and YORKSHIRE DYEWARE & CHEMICAL Co.), (P.), B., 948.

Balls, Brinell, iron-earbon-vanadium alloy for (QUICK and JORDAN), B., 752.

Balsam, Peru, acid number of (Schoorl and Kuijlman), B., 119. Bamboo. See Phyllostachys quilioli.

Bamboo fibre, size of, and its variation with certain constituents (NISHIDA and WARAMIYA), B., 698.

Barbituric acid, manufacture of (BOEDECKER and RIEDEL A.-G.), (P.), B., 349. pharmacology of di- and tri-alkyl derivatives of (Dox and

HJORT), A., 1219. Barbituric acids, localisation of, in the brain (E. and J. KEESER),

A., 1110.

alkylamine salts of (HOFFMANN-LA ROCHE & Co.), (P.), B., 398. substituted, manufacture of (RIEDEL), (P.), B., 237.

disubstituted, compounds of 4-dimethylamino-1-phenyl-2:3-dimethyl-5-pyrazolone and (Chem. Fabr. Schering), (P.), B.,

Barium, isolation of (MATIGNON and MARCHAL), A., 430.

spectrum of (Kichlu and Saha), A., 802.

are and spark spectra of (Pokrovski), A., 1118.

doublets in spark spectrum of (ORNSTEIN, COELINGH, and EYMERS), A., 999.

duration of light emission for (KERSCHBAUM), A., 707. potential of (LATIMER), A., 941.

Barium borate, anhydrous (DE CARLI), A., 325.

bromide, equilibrium of radium bromide, hydrogen bromide, water, and (Chlorin and Nikitin), A., 1133.

carbonate, manufacture of (MARWEDEL, LOOSER, and RHENANIA

Ver. Chem. Fabriken), (P.), B., 189*. free from sulphur (Falco), (P.), B., 522, 778.

for manufacture of pure barium oxide (RHENANIA-KUNHEIM VER. CHEM. FABRIKEN), (P.), B., 965.

precipitated (Pierce), (P.), B., 777. electrolysis of (Dony and Meunier), A., 833.

dissociation pressure of (DUTOIT), A., 416.

reactions in the solid state between sodium carbonate, silica,

and (KRAUSE and WEYL), A., 841. commercial, determination of sulphide, thiosulphate, and sulphur in (BRINTZINGER and RODIS), B., 841.

perehlorate, and its mixtures with alkaline earth perchlorates as dehydrating agents (Sмітн), А., 438.

chloride, manufacture of (Molitor), B., 580.

ultra-violet absorption spectrum of solutions of (VITERBI), A., 1122.

coagulation of arsenic trisulphide sols by (Rabinovitch), A., 624.

equilibrium of cobalt chloride, water, and (MAZZETTI), A., 22. chromate, fractional precipitation of (Henderson and Kracek), A., 431.

hydroxide, surface tension, and viscosity of solutions of (FAUST), A., 409.

iodide, equilibrium of iodine, water, and (RIVETT and PACKER),

A., 731. dispergation of cellulose in solutions of (v. Weimarn and

Катока), А., 824.

nitrate, freezing point and activity coefficients of aqueous solutions of (RANDALL and Scott), A., 419.

variation of cell constant with concentration and molal con-

ductivity of (RANDALL and Scott), A., 421. oxide, production of (RHENANIA-KUNHEIM VER. CHEM. FABR.), (P.), B., 777.

peroxide, manufacture of (Poet), (P.), B., 653.

silicofluoride as insecticide (Howard and Grasselli Chemical Co.), (P.), B., 311.

sulphate (baryles), manufacture of pure white and finely-distributed (Lichtenberger and Kaiser), (P.), B., 947. refining of (O'BRIEN), (P.), B., 777.

colloidal, solubility and particle size of (BALAREY, KOVAND-JIEV, and KULELIEV), A., 823.

sols of, in methyl alcohol (THORNE and SMITH), A., 933. coalescence of unfilterable precipitates of (TRIMBLE), A., 435. adsorption of electrolytes by (Mukherjee and Basu), A.,

occlusion of barium chloride by (GERMUTH), А., 638.

Barium, adsorption of permanganates by (BALAREV and KANDI-LAROV), A., 721, 738.

mixed crystals of potassium permanganate and (Geilmann and WÜNNENBERG), A., 120

volatile compounds from heating, with sulphuric acid (HAHN), B., 106; (Krauss), B., 139.

use of, in the rubber industry (Dawson and Hartshorne),

sulphide, manufacture of (RICHARDSON), (P.), B., 937*. hydrogen sulphide, manufacture of (PIERCE), (P.), B., 777.

Barium organic compounds :--Barium phenyl iodide (GILMAN and SCHULZE), A., 1177.

Barium detection, determination, and separation :detection of, spectrochemically (HUKUDA), A., 745.

determination of, volumetrically (LE GUYON), A., 223, 537. determination of, and its separation from calcium and strontium (Szebellédy), A., 223.

separation of, from calcium (Geilmann and Höltje), A., 1159.

Bark. See under Trees.

Barley, effect of halogenated hydrocarbons on germination of (MÜLLER), B., 616.

action of metallic salts on germination of (NOELDECHEN), B.,

influence of soil, season, and manuring on growth of (Russell),

effect of ionised air on respiration of seedlings of (MIDDLETON), A., 703.

of different nitrogen contents, yield from (Anon.), B., 950. influence of potash manures with supplies of nitrogen on yield and quality of (Wiessman and Bürger), B., 972.

influence of soil, season, and manuring on malting values of (LANCASTER), B., 312.

yield of extracts from malt and (EHRICH), B., 264.

browing, nitrogen distribution in (NAKAMURA), A., 995.

Barley flour. See under Flour.

Barley plants, young, utilisation of reserve materials by, in presence of potassium and sodium salts (Bobrownicka-Odrzy-WOLSKA), A., 384.
Barytes. See Barium sulphate.
Base, $C_9H_{13}N$, and its salts, from p-cymene and sulphurylazide

(Bertho, Curtius, and Schmidt), A., 1086.

C₁₀H₁₈ON₂, and its salts and derivatives, from piperidine and benzoylacetonitrile (KRISHNAMURTI and DEY), A., 766.

C11H22O2N2, and its salts, from reduction of chlorovasicine (Сноѕе), А., 785.

C₁₂H₁₀N₂, and its picrate, from distillation of yohimbine (WINTERSTEIN and WALTER), A., 1208.

C13H12N2, and its salts, from distillation of yohimboaic acid (WARNAT), A., 682.

C₁₉H₂₂N₂, and its salts and derivatives, from action of magnesium benzyl chloride on glutaronitrile (Bruylants and DEWAEL), A., 233.

C₁₉H₂₃O₃N, and its hydrobromido and tetrahydro-derivative, from dehydration of hydroxyde-N-methyldiliydrothebainone (Sohöpf and Borkowsky), A., 473.

C20H27O4N, and its dihydro-compound, and their methiodides. from degradation of hydroxydinydrothebainone (Schöff and Borkowsky), A., 473.

C23H32O5N2, and its picrate, from akuammine, sodium methoxide, and methyl iodide (HENRY and SHARP), A., 982.

C24H31O4N, and its oxalate, from ethyl benzylmalonate (RUPE and Heckendorn), A., 61.

Bases, influence of hydrophilic colloids on conductivity of (BRINT-ZINGER), A., 1138.

effect of salts on adsorption of (PARKS and BARTLETT), A., 821. gaseous equilibria between acids and (TIAN), A., 727. cyclic, relative stability of (v. Braun and Goll), A., 366.

dicyclic, manufacture of (RIEDEL), (P.), B., 286.

optically active (Rule), A., 233.

organic, in non-aqueous solution (Hölzl), A., 558.

transference of water in solutions of (REMY and REISENER), A., 521.

compounds of, with benzoylacetonitrile (KRISHNAMURTI and DEY), A., 766.

theory of formation of complex compounds of metallic halides and (Scagliarini), A., 352.

reaction between organic acids and (Hölzl), A., 310. tertiary heterocyclic, transformation of (Polonovski and

Polonovski), A., 367. Bases, determination of, as silver compounds (Kresel), A., 270. Base exchange (BIESALSKI), A., 324.

Base-exchange substances, production of (COCHRANE CORP. and DAHL-RODE), (P.), B., 382.

Basket cover for machines (DUNSMORE), (P.), B., 434.

Bast fibres, decomposition of (Frank), (P.), B., 184. separation of cellulose crystals from (HESS and SCHULTZE), A.,

Bates, artificial and natural, measurement of enzymatic activity of (Hugonin), B., 420.

enzyme, titration method for evaluation of (SCHNEIDER and Ulčeк), В., 662, 758.

Bating materials, bating action and enzymic activity of (Hugo-NIN), B., 342.

artificial, determination of enzyme value of (Kubelka and WAGNER), B., 260.

standardised (LENK), B., 284.

determination of activity of, by Lenk's method (Jablonski and ECCERT), B., 854.

Batteries (Harrison and Campbell), (P.), B., 116; (Gill), (P.), B., 370; (DE MIERES), (P.), B., 416. electrolyte for (MELMS), (P.), B., 145.

drying of charged plates of (SILICA GEL CORP., HUTCHINSON, and Plews), (P.), B., 944.

treatment of discarded lead plates of (STEWART and CONSTANT Co.), (P.), B., 583.

dry (Burgess Battery Co. and Schulte), (P.), B., 339. depolariser for (Soc. Anon. LE CARBONE), (P.), B., 48.

dry used, recovery of filling material of (CHEM. FABR. JOHAN-NISTHAL V. VIETINOHOFF-SCHEEL and TROSTLER), (P.), B.,

primary (Bleeck), (P.), B., 820. depolariser for (Armstrong and National Carbon Co.),

(P.), B., 530.

secondary, plates for (STONE & Co. and DARKER), (P.), B., 117. suspension for plates in (HART ACCUMULATOR Co. and HARDY), (P.), B., 450.

storage (Linebarger), (P.), B., 226.

manufacture of (ANGELL and VESTA BATTERY CORP.), (P.), B., 370.

manufacture of plates for (WILLIAMS), (P.), B., 416.

electrode-supporting sheets for (FULLER'S UNITED ELECTRIC Works and Whaite), (P.), B., 371. plate pillars for (Edison Swan Electric Co. and Webster),

(P.), B., 226.

retaining material in (STONE), (P.), B., 145.

separators for (Fuller's United Electric Works and Whaite), (P.), B., 226; (Foolprufe Patent Accumulator Co. and Brown), (P.), B., 339.

Bauxite, properties of (YAMAGUCHI, TAKEBE, and YAZAWA), A., 517.

extraction of, by sodium hydroxide (NEUMANN and REINSCH), B., 106.

thermal decomposition of (YAMAGUCHI and TAKEBE), A., 207. hydrated alumina in (DE LAPPARENT), A., 748.

Bead-decorated threads, manufacture of (VREDENBURG), (P.), B., 185.

Beans, soya. See Soya beans.

Bearings, compressed compositions for manufacture of (CLAUS), (P.), B., 784.

Bearing metals. See under Alloys.

Becquerel effect (Lifschitz), A., 423; (Lifschitz and Hoogнопот), А., 942.

with copper oxide electrodes (van Dyck), A., 832.

Becquerel rays. See under Rays. Beech wood, digestion of, with nitric acid (SUIDA and SADLER),

B., 773. Beef liver, heart, and kidney, protein values of (MITCHELL and BEADLES), A., 275.

Beer, original specific gravity of (HOPKINS), B., 567. absorption of odours by (MURPHY and MASON), B., 953.

influence of brewery water on composition of (KOUDELKA),

formation of head on (GEYS), B., 424. vitamin content of (SCHIEBLICH), B., 665.

bacterial infection of (MATTHEWS and MATTHEWS), B., 888. fermentation and maturation of (HANSENA A.-G. and NATHAN),

(P.), B., 760. pasteurisation of (HANSENA A.-G. and NATHAN), (P.), B., 761. pasteurised, prevention of haze in (Heinekens' Bierbrouwerij Maatschappij), (P.), B., 856.

Beer, analysis of (Doemens), B., 424.

Beeswax. See under Wax.

Beet molasses. See under Molasses.

sugar. See under Sugar.

Beetles, Japanese, effect of water and aqueous solutions of organic compounds on (FLEMING), B., 121.

Beetroot, sugar, dehydration of (Owen, Manes, and Dougan), B., 537.

influence of carbon dioxide on growth of (Zaleski), B., 498. effect of manuring with Chili saltpetre on (Souček and

KRAUS), B., 729. invertase of, poor in potassium (Doby and Hibbard), A.,

nitrogen manuring necessary for growth of (Schönbrunn), B., 972.

formation of sucrose in (Colin), A., 596.

origin and migration of sugars in (Spengler and Weidennagen), B., 234.

analysis of (Ling), B., 686.

determination of sugar in (STANEK and VONDRAK), B., 395; (Le Docte), B., 537; (Dolinek), B., 663.

determination of sugar in, by the hot water digestion method (Spengler and Brendel), B., 234.

determination of sugar and non-sugars in (FREMEL), B., 711. cossettes, dried, determination of sucrose in (Eynon and LANE), B., 423.

isoBehenic acid, and its methyl ester and amide (SHIMER, NABEN-HAUER, and Anderson), A., 798. Bentonites, synthesis of (NEKRICH), B., 936.

Benzacridine, and its chloroplatinate (v. BRAUN and ZOBEL), A., 258.

Benzaldehyde, manufacture of (FREUND), B., 923.

density of (TREFF), B., 59.

van der Waals' constants for (Weissenberger and Henke),

negative catalysis in oxidation of (Reiff), A., 57. inhibition of autoxidation of (Brunner), A., 1152.

condensation of, with magnesium ethyl bromide (TERENTIEV), A., 152.

condensation of, with menthone (GORDON), A., 1195.

acetophenone carbohydrazone and δ-aminosemicarbazone (Brown, Pickering, and Wilson), A., 232.

cyclohexylhydrazone, and its hydrochloride and dioxide, and m- and p-nitro-, and their hydrochlorides (Busch and LINSENMEIER), A., 455.

cyclohexyl-β-naphthylhydrazone (Busch and Becker), A., 761. and nitro-, phenyl-, and tolyl-cyclohexylhydrazones (Busch and HAASE), A., 554.

and m-nitro-, p-tolylhydrazones of (MINUNNI and D'URSO), A., 1073.

thiosemicarbazones, and their hydrochlorides (BAIRD, BURNS, and Wilson), A., 1176.

Benzaldehyde, o-amino-, condensation products of (BAMBERGER), A., 361.

o-amino- and o-nitro-, behaviour of, in the animal organism (Hosoda), A., 171.

p-amino-, 3:4-dihalogeno-, and 3-nitro-4-amino-, derivatives of (Hodgson and Beard), A., 244.

2:3:5-trichloro-, 2:5-dichloro-3-nitro-, and mono-, di-, and trinitrohydroxy-, and their salts and derivatives (Hodoson and BEARD), A., 1075.

2:5-dihydroxy-, preparation of, and its derivatives (Hodgson and Beard), A., 1075.

o-nitro-, action of diazomethane on (ARNDT and PARTALE),

m-nitro-, condensation of, with 2-methylquinoline (TAYLOR and Woodhouse), A., 257.

Benzaldehydes, substituted, sulphur derivatives (Hodgson and BEARD), A., 1188.

Benzaldehydes, chlorohydroxy-, and their salts and derivatives (Hoddson and Jenkinson), A., 877.

dihydroxy-, absorption spectra and constitution of (VALIAscнко), A., 396.

nitrohydroxy-, preparation of, and colour relationships of their substituted phenylhydrazones (Hodgson and Beard), A., 1075.

Benzaldehyde-4-azo-β-naphthol, 3-nitro- (Hodgson and Beard), A., 245. Benzaldehyde-5-carboxylic acid, 2-hydroxy-, phenylhydrazone

(CHATTAWAY and PRATS), A., 458.

Benzaldehyde-N-carboxylic acid, o-amino-, derivatives of (v. Auwers and Frese), A., 160.

Benzaldehydephenylhydrazone-N-carboxylic acid, and o-chloro-, derivatives of (Stollé, Nieland, and Merkle), A., 1204.

Benzaldimine, and its salts (STRAIN), A., 767.

Benzaldoxime, and o-amino-, derivatives of (v. Auwers and FRESE), A., 160.

Benzaldoxime, 2:4:5:6-tetrabromo-3-amino-(Hodgson and Beard), A., 1188.

ω-chloro-p-cyano- (RHEINBOLDT, DEWALD, JANSEN, and SCHMITZ-ĎUMONT), A., 245.

2:4-dihydroxy-, acetate of (Lindemann, Könitzer, and ROMANOFF), A., 980.

Benzaldoximecarboxylic acids, o-amino-, and their derivatives, esters of (v. Auwers and Frese), A., 160.

Benzaldoxime-ON-dicarboxylic acid, o-amino-, esters of (v. Auwers and Frese), A., 160.

Benzamide, compound of bromine and (FINKELSTEIN), A., 303. Benzamides, thio-, halogenated (KINDLER), A., 55.

Benzanilide, 2:4:6-trichloro- (Chapman), A., 874.

Benzanilideiminochloride, o- and p-chloro- (Charman), A., 874. Benz-p-anisidide, thio- (FRIES and BUCHLER), A., 781.

Benz-p-anisidideiminochloride (Chapman), A., 874.

isoBenzanthragallol, and its derivatives (Cross and Perkin), A., 771.

Benzanthrapurpurin, derivatives of (Cross and Perkin), A., 771. Benzanthrone, manufacture of (Caswell, Marshall, and DU PONT DE NEMOURS & Co.), (P.), B., 627.

derivatives (I. G. FARBENIND.), (P.), B., 275, 870; (BRIT. DYESTUFFS CORP., BADDILEY, SHEPHERDSON, and THORNLEY; I. G. FARBENIND. and FARBW. VORM. MEISTER, Lucius, & Brüning), (P.), B., 837.

halogenated, manufacture of, containing sulphur (I. G. FARBENIND. and FARBW. VORM. MEISTER, LUCIUS, & Brüning), (P.), B., 647.

Benzanthrone, cyano- (KALLE & Co.), (P.), B., 101.

2:6-dihydroxy- (I. G. FARBENIND. and FARBW. VORM. MEISTER, Lucius, & Brüning), (P.), B., 550.

Benzanthrones, dichloro- (I. G. FARBENIND.), (P.), B., 387. chlorohydroxy-, vat dyes from (I. G. FARBENIND.), (P.), B.,

Bz-Benzanthrone, 21-hydroxy-, and its acetyl derivative (Schir-MACHER, ZAHN, WILKE, OCHWAT, and GRASSELLI DYESTUFF Corp.), (P.), B., 275.

Benzanthrone dyes and intermediates (Thomson, Thomas, and Scottish Dyes), (P.), B., 102*.

vat, manufacture of, containing nitrogen (I. G. FARBENIND. and FARBW. VORM. MEISTER, LUCIUS, & BRÜNING), (P.), B., 647.

Benzanthrone series, preparation of condensation products of (I. G. FARBENIND.), (P.), B., 550; (I. G. FARBENIND. and FARBW. VORM. MEISTER, LUCIUS, & BRÜNING), (P.), B., 550, 647.

manufacture of nitriles of (KALLE & Co.), (P.), B., 101; (SCHMIDT, NEUGEBAUER, and GRASSELLI DYESTUFF CORP.), (P.), B., 438*.

Benzaurin, absorption spectrum of (ORNDORFF, GIBBS, MCNULTY, and Shapiro), A., 764.

Benzazide, oxplosions with (BERGEL), A., 969.

Benz-1-bromo-2-naphthylamide (FRIES and BUCHLER), A., 782. Benzchloroanilideiminochlorides (CHAPMAN), A., 874.

mesoBenzdianthrone, 3:4:3':4'-tetrahydroxy-(Eckert

Hampel), A., 882. 2:3-Benz-5:6-dihydro-a-naphthacridine (v. Braun and Bayer),

Benz-3:3'-dimethoxydiacridonequinone (Lewicka), A., 575. Benzdithiazole, dithiol- (TEPPEMA and SEBRELL), A., 887.

1:3-Benzdithiole, 2-p-hydroxy-, and its nitrate (HURTLEY and SMILES), A., 466.

1:3-Benzdithiole-2-p-benzoquinone, and its hydrochloride (HURT-LEY and SMILES), A., 466.

1:3-Benzdithiole-2-β-naphthaquinone (HURTLEY and SMILES), A., 466.

Benzene, formula and isomeric o-disubstitution products of (Hodgson) A., 47.

nucleus, structure of (INGOLD and MARSHALL), A., 141. and electric moments of substituted derivatives (Smyth and Morgan), A., 611.

substitution in (Suraup and Beiruss), A., 659; (Ionescu), A., 756. 18

Benzene, nucleus, influence of nitro-groups on reactivity of substituents in (Dadswell and Kenner), A., 456.

preparation of, by polymerisation of acetylene (Iki and

OGURA), B., 739.
production of, by reaction between phenolic vapours and a reducing gas (IRINYI), (P.), B., 696.

molecular scattering of light in (Cabannes), A., 921.

Röntgen ray diffraction in hexane, cyclohexane, and (RAMAN and Sogani), A., 499.

magnetic double refraction in (RAMAN and KRISHNAN), A., 92, 296.

solid, absorption spectrum of (Kronenberger and Pringsheim). A., 90; (Pringsheim), A., 186.

infra-red absorption spectra of, and its derivatives (BARNES and Fulweiler), A., 918.

intensity of light diffused through (CABANNES and DAURE), A., 295.

polarisation and molecular structure of (ERRERA), A., 189. variation of dielectric constant of, with pressure (CAGNIARD),

dielectric constants of organic compounds in (WILLIAMS and Киснма), А., 819.

dielectric constants and densities of solids dissolved in (Wir.-LIAMS and ALLGEIER), A., 1132

latent heat of vaporisation of, at high temperatures (Sutcliffe, LAY, and PRICHARD), A., 717.

chemical constant of (DE Kolosovski), A., 718.

distillation of mixtures of ethyl alcohol, water, and (BARBAUDY), A., 315.

density of mixtures of phenol and acetic acid with (WOODMAN), A., 196. vapour, adsorption of, on surfaces of glass, quartz, and platinum

(Lenner), A., 198.

adsorption of, by silica gels impregnated with carbon (Fells and Firth), (P.), B., 135.

equilibrium of hydrogen, cyclohexane, and (Burnows and Lucarini), A., 628.

electropyrogenic decomposition of (MÜLLER and BANNINGER), A., 1177.

action of benzoyl peroxide on (REYNHART), A., 356.

formation of diphenyl from (PYL), A., 654; (Fuchs), A.,

condensation of, with nitrobenzyl chlorides (OLIVIER and Berger), A., 1177. nitration of dihalogen derivatives of (VAN HOVE), A., 757.

comparison of heterocyclic systems with (FIESER and AMES), A., 1198.

derivatives, absorption spectra and constitution of (VALIAsсико), A., 396.

disubstituted, dielectric constants of (Kerr), A., 294. electrochemical oxidation of homologues of (Fighter and

RINDERSFACHER), A., 48, 348; (Ono), A., 348. determination of, in alcohol solution (ORMANDY and CRAVEN),

B., 100. determination of water in mixtures of alcohol with (Peters), B., 858.

See also Benzol. Benzene, p-dibromo-, magnesium derivatives of (QUELET), A., 890.

bromo-, and iodo fluoronitro- (VAN HOVE), A., 757.

o-dichloro-, formation of dichloroanthraquinones from (FIERZ-DAVID; PHILLIPS), A., 1079.

p-dichloro-, detection of, in insecticides (François and Séguin). B., 974.

m-di- and s-tri-chloro-, disulphonation of (DAVIES and POOLE), A., 654.

chlorobromo-4:6-dinitro-, isomeric forms of, 1:6-dichloro-3-bromo-4-nitro-, and 1:4:6-trichloro-3-bromo- (Hodgson), A., 47.

mono- and di-chlorochlorothiol- (GEBAUER-FÜLNEGG), A., 1060.

fluoro-, viscosity of, above the boiling point (TITANI), A., 616.

effect of, on sulphur metabolism (Coombs), A., 696. o-dihydroxy-, determination of derivatives of, colorimetrically (SCHMALFUSS, SPITZER, and BRANDES), A., 1213.

1:2:4:5-tetrahydroxy-, tetraacetate (KOHN and SUSSMANN), 1-iodo-3:5-diamino-, acetyl derivative, and 1-iodo-3:5-dinitro-

(NICOLET), A., 869.

Benzene, nitro-, manufacture of (LIVINGSTON and KYRIDES), (P.), B., 809.

electrochemistry of aluminium bromide solutions in (Plotni-KOV and BENDETZKY), A., 832.

properties of mixtures of hexane and (Timoféev and Stachorski), A., 1132.

condensation of, with o-phenylenediamine (Bocert and McColm), A., 1205.

action of, on phenylenediamines (CRIPPA and CASTELLI), A., 352.

mono- and di-nitro- and dinitroso-, compounds of stannic and titanic chlorides with (REIHLEN and HAKE), A., 219.

o-dinitro-, effect of potato-tuber juice on biological reduction of (Pietsch), A., 384.

m-dinitro-, molecular organic compounds of (Buehler and HEAP), A., 141.

p-dinitro-, preparation of (CHAPAS), A., 348.

nitroso-, reaction of magnesium phenyl bromide with (GILMAN and McCracken), A., 550.

action of, on o-nitrophenylacetylene (Alessandri), A., 572. Benzenes, o-substituted, vicinal substitution in (INGOLD and Sмітн), A., 870.

Benzene β-hexabromide and β-hexachloride (HENDRICKS and BILICKE), A., 98.

Benzene series, oxidation in, by gaseous oxygen (Stephens), A., 48.

Benzene-1-arsinic acid, 4-amino-2-hydroxy-, 4-formyl derivative, and its salts (ÉTABL. POULENC FRÈRES and FOURNEAU), (P.), B., 892.

5:3-diamino-4-hydroxy- and 3-chloroamino-4-hydroxy-, 3-acetyl derivatives (STICKINGS and MAY & BAKER), (P.), B., 925.

5-Benzeneazoacenaphthene, 3-chloro-4-hydroxy- (Dziewoński and Zahrzewska-Baranowska), A., 871.

7-Benzeneazo-6-aminoacenaphthenesulphonic acids (Dziewoński and Orzelski), A., 347.

Benzeneazo-2'-aminonaphthalene 4-hydroxy-3-cyano- (Linde-MANN, KÖNITZER, and ROMANOFF), A., 980.

Benzeneazo-1-isoamylpyrrole, and its picrate (Reichstein),

Benzeneazo-m-bromo-N-dimethylaniline (v. Auwers and Bull-

MANN), A., 144. Benzeneazo-1-n-butylpyrrole, and its picrate (Reichstein),

Benzeneazocarbamide. See Phenyltriazinecarboxylamide.

Benzeneazo-N-dimethyl-o-anisidine, p-nitro- (v. Auwers and Bullmann), A., 144.

3-Benzeneazo-2:6-dimethylpyrone (Mullen and Crowe), A., 974. Benzeneazo-N-dimethyl-m-toluidine, p-nitro- (v. Auwers and Bullmann), A., 144.

Benzeneazo-2-ethylindole, 3-p-nitro- (Korczyński, Brydovna, and Kierzek), A., 256.

Benzeneazohydroxy-2-methylquinolines (BERLINGOZZI), A., 675. 4-Benzeneazo-3-hydroxy-2-phenylquinoline (Berlingozzi), A., 675. 6-Benzeneazoindazole, p-hydroxy-, and its 1-acetyl derivative (v. Auwers and Demuth), A., 260.

Benzeneazo-2-methylindole, 3-p-nitro- (Korczyński, Brydovna, and Kierzek), A., 256,

3-Benzeneazo-2-methylquinoline (Berlingozzi), A., 675.

Benzeneazo-a-naphthaleneazo-β-naphthol, 4-o-bromo- (Tröger and Bertram), A., 142.

Benzeneazo-a-naphthaleneazo-m-phenylenediamine, 4-o-ehloro-(Tröger and Bertram), A., 142.

Benzeneazo-a-naphthaleneazoresoreinol, 4-o-bromo-, and 4-ochloro- (Tröger and Bertram), A., 142.

Benzeneazonaphthalene-1-diazonium chloride, 4-o-chloro- (TRÖGER and Bertram), A., 142.

Benzeneazonaphthalene-a-diazonium sulphonic acid, 4-o-bromo-, and 4-o-chloro-, salts of (Tröger and Bertram), A., 142.

4-Benzeneazonaphthalic anhydride, 4-hydroxy- (Dziewoński and Zahrzewska-Baranowska), A., 871.

Benzeneazo- β -naphthol, 3-bromoand 3-cbloro-4:6-dinitro-(Hodoson), A., 47.

4-hydroxy-3-cyano- (Lindemann, Könitzer, and Romanoff).

Benzeneazo-a-naphthylamine, 4-o-bromo-, and 4-o-chloro-, and their salts and derivatives (TRÖGER and BERTRAM), A., 142. Benzeneazo-a-naphthylhydrazinesulphonic acid, 4-o-bromo-, and

4-o-chloro-, and their salts (Tröger and Bertram), A., 142. Benzeneazo-a-naphthylhydrazones, 4-o-bromo-, and 4-o-chloro-(TRÖGER and BERTRAM), A., 142.

4-Benzeneazo-1-phenylbenztriazole, 5-hydroxy- (Fieser and AMES), A., 1198.

3-Benzeneazo-2-phenylqninoline (Berlingozzi), A., 675.

Benzeneazopyrogallol, and its derivatives (BIGIAVI and GRECHI), A., 761.

Benzeneazoxy-p-phenols, formation of (BIGIAVI), A., 1180.

Benzeneazoxypyrogallols (Bigiavi and Grechi), A., 761.

Benzeneazoxy-p-toluenes, isomeric, and their derivatives, and p-bromo- (BIGIAVI and SABATELLI), A., 1180. Benzenediazonium chloride, stability of, and its reactions with

organic acids and alcohols (PRAY), A., 26. chlorobismuthate, and p-bromo-, and p-chloro- (Charrier), A.,

1064. fluoborate (Funk and Binder), A., 219; (Wilke-Dörfurt

and Balz), A., 238. fluorosulphonate (LANGE), A., 532.

salts, condensation of, with malonyldiurethane (Whiteley and YAPP), A., 344.

amino-, acetyl derivatives of (GRAY), A., 143.

Benzenedisulphonic acids, 1:3-di- and s-tri-chloro-, and their salts and derivatives (DAVIES and POOLE), A., 654.

Benzenedisulphonyl fluoride, and its diazoamino-derivative (STEINKOPF), A., 964.

Benzene-3:5-disulphonyl chloride, 1-chloro-2:6-dihydroxy- (Pol-LAK, GEBAUER-FÜLNEGG, and LITVAY), A., 354.

Benzene-p-seleninic acid, bromo- (Porritt), A., 267.

Benzenesulphenic acid, mono- and di-chloro-, and 4-chloro-2-nitro-, amides, and anilides of (GEBAUER-FÜLNEGG), A., 1060.

Benzenesulphohydrazotriphenylmethane (Wieland, Maier, Dennstedt, and Lorenzo), A., 237.

-Benzenesulphonazophenol, and its benzoate (Borsche and Frank), A., 51.

Benzenesulphoncyclohexylanilide (Busch and Gebelein), A., 553.

Benzenesulphonic acid, quinoline salt (Gebauer-Fülnegs and RIESENFELD), A., 139.

menthyl ester, rotation of, in various solvents (Patterson and McAlpine), A., 295.

Benzenesulphonic acid, m-nitro-, and its arylamine salts (KEYworтн), А., 235.

Benzenesulphonic acids, nitroamino-, aryl esters, manufacture of (Duisberg, Hentrich, Zeil, and Grasselli Dyestuff Corp.), (P.), B., 903*.

Benzenesulphonic acid-azo-2:4-diamino-4'-hydroxydiphenylsulphone-5'-carboxylic acids (British Dyestuffs Corp., Mendoza, and Saunders), (P.), B., 101.

Benzenesulphonic acid - 2:5-diazo - 2:4 - diamino - 4' - hydroxydiphenylsulphone-5'-carboxylic acid (British Dyestuffs Corp., MENDOZA, and SAUNDERS), (P.), B., 101.

(WIELAND, HINTERMAIER, Benzenesulphontriphenylmethane DENNSTEDT, and LORENZO), A., 237.

Benzenesulphonyl chlorides, reduction of, by aluminium amalgam (Gebauer-Fülnegg), A., 655.

fluoride, m-amino-, hydrochloride, m-cyano-, m-iodo-, and m-nitro- (Steinkopf), A., 964.

2-nitrophenyl disulphides, 4-amino-, acetyl derivative and 4-chloro- (Brooker, Child, and Smiles), A., 757.

Benzenesulphonylbenzoin (Földi), A., 453.

Benzenesulphonyl- β -methylenedioxyphenylethylaminoacetic acid (v. Braun and Wirz), A., 254.

2-Benzenesulphonyl-8-methyl-as-homotetrahydroisoquinoline Braun and Wirz), A., 254.

2-Benzenesulphonyl-7-methyltetrahydroisoquinoline (v. Braun and Wirz), A., 254.

2-Benzenesnlphonyl-8-isopropyl-as-homotetrahydroisoquinoline (v. Braun and Wirz), A., 254.

Benzenesulphonyl- γ -p-isopropylphenyl-n-propylaminoacetic (v. Braun and Wirz), A., 254.

Benzenesulphonyl- β -p-tolylethylaminoacetic acid (v. Braun and Wirz), A., 254.

Benzenesulphonyl-y-p-tolylpropylaminoacetic acid (v. Braun and Wirz), A., 254.

Benzene-as-trisulphonic acid, preparation of (Pollak, Deutscher, and KRAUSS), A., 866.

isoBenzflavopurpurin, and its derivatives (Cross and Perkin), Benzhydrazide, o-amino-, action of nitrous acid on (Heller and

Siller), A., 676. Benz-3:3'-dihydroxydiacridonequinone (Lewicka), A., 575.

Benzhydryl cyclohexyl ketone, derivatives of (Danilov), A., 154.

Benzidine (Hodgson), A., 760.

production of, and its derivatives (NELSON and NATIONAL Aniline & Chemical Co.), (P.), B., 772.

melting point of, and its hydrate (LE Fèvre and Turner), A.,

diacyl derivatives of (Brogan), A., 760.

mercuriacetate, and its hydrochloride (BERNARDI and TAR-TARINI), A., 581.

Benzidines, dinitro-, reduction of, and condensation of the products with benzil (LE Fèvre, Moir, and Turner), A., 1062. Benzidine-2:4-dinitrophenol (Buehler and Heap), A., 141.

Benzidine-2:4-dinitrotoluene (BUEHLER and HEAP), A., 141. Benzil (dibenzoyl), electrical birefringence of (DE MALLEMANN), A., 1130.

crystal structure of (ALLEN), A., 612.

reduction of, by magnesium and magnesium halide (GOMBERG and BACHMANN), A., 1190.

action of nitromethane and nitroethane on (Kasiwagi), A.,

δ-aminosemicarbazone (Brown, Pickering, and Wilson), A., 232.

Benzil, m-nitro-, β-p-tolylosazone (Minunni and D'Urso), A., 1073.

3:3'-dinitro-, and 3:5:3':5'-tetranitro-, and their derivatives (CHATTAWAY and Coulson), A., 461.

Benzil-o-carboxylic acid, keto- and lactone forms of (HANTZSCH), A., 1188.

Benzildiethylamide (McKenzie and Duff), A., 755.

Benziminazole, 4:6-dichloro-5-hydroxy-, and its acetate (Fries, DIECKMANN, and FINGERLING), A., 781.

Benziminazoles, mono- and di-chloro-5-amino-, and their formyl derivatives (FRIES, MODROW, RAEKE, and WEBER), A., 780.

Benziminazolebutane-a-sulphonic acids, and their salts (BACKER and Toxopeus), A., 133.

Benziminophenyl ether hydrochloride (Housen and Blaese), A.,

Benzine, production of, by cracking, and its purification (I. G. FARBENIND.), (P.), B., 245.

production of, from petroleum emulsions (DE KADT), (P.), B.,

distillation of, by the A.S.T.M. method (BATAAFSCHE PETROL-EUM MAATSCH.), B., 131.

valuation of, by the index number (Kroch), B., 272.

low-temperature, refining of (ZECHE M. STINNES, MÜLLER, and HÜTZEN), (P.), B., 468, 695.

refining and desulphurisation of (RIEBECK'SCHE MONTANwerke), (P.), B., 695.

Benz-p-nitroanilide, thio- (FRIES and BUCHLER), A., 782.

Benzoatouranic acids, trihydroxy-, salts of (Weinland and HAGER), A., 358.

4:5-Benzocoumaranone-2:3-dione, 13-hydroxy- (Lesser and GAD), A., 247.

7:8-Benzoheptamethyleneimine, and its salts and derivatives (v. Braun and Bayer), A., 673.

4:5-Benzohepta-1:2:6-oxadiazine, 7-hydroxy-, and its derivatives (v. Auwers and Frese), A., 161.

Benzoic acid, and its salts, preparation of (Blanc), (P.), B., 459.

manufacture of (FREUND), B., 923.

heat of combustion of (Berner), A., 315.

vapour pressure of (Klosky, Woo, and Flanigan), A., 615. equilibrium of sulphur and (HAMMICK and HOLT), A., 312.

and mono- and di-hydroxy-, velocity of esterification and of chlorohydrin formation in, in glycerol and in glycol (KAILAN and Gottein), A., 1187. action of, and its substituted derivatives on starfish eggs

(LILLIE), A., 696.

excretion of, as hippuric acid (Brakefield), A., 1107.

determination of, in its salts (CLARK), B., 266. determination of, in egg yolk (WALTZINGER), B., 122.

determination of, in foods (MONIER-WILLIAMS), B., 502, 922; (NOETZEL), B., 668; (GROSSFELD), B., 794.

determination of, in minced meat (WALTZINGER), B., 539. Benzoic acid, ammonium salt, action of, on urine (Johnston), A.,

sodium salt, analysis of (Henville), B., 315.

Benzoic acid, and p-amino-, and p-nitro-, esters of (Jones and Major), A., 754.

4-p-aminoanilino-2-naphthyl ester (Fuchs and Niszel), A., 1184.

Benzoic acid, 4-amino-3-hydroxyphenyl ester, acetyl derivative (LINDEMANN, KÖNITZER, and ROMANOFF), A., 980.

cellulose ester (Atsuki and Shimoyama), B., 70.

ethyl ester, chloro- and methoxy-derivatives, velocity of saponification of (BLAKEY, MCCOMBIE, and SCARBOROUGH), A.,

4-iodo-3-hydroxyphenyl ester, and 5-iodo-2:4-dihydroxy-, and 3:5-diiodo-2:4-dihydroxy- (Nicolet and Sampey), A., 869. and 3:5-dinitro-, l-neomenthyl esters (Gordon), A., 1195.

2-methoxy-4-n-butylphenyl ester (Mannich and Merz), A.,

4-methoxyphenyl ester, and its 3-bromo-derivative (IRVINE and Smitii), Å., 240.

methyl ester, equilibrium of methyl alcohol, water, and (GIL-BERT and LAUER), A., 830.

polyvinyl ester (STAUDINGER, FREY, and STARCK), A., 1052. tolyl esters, action of aluminium chloride on (Cox), A., 565. triphenylpropargyl ester (Moureu, Dufraisse, and Hough-TON), A., 355.

Benzoic acid, p-amino-, esters, halogenophenol- and iodohydroxy-

quinoline-sulphonates of (RITSERT), (P.), B., 60. ethyl ester, derivatives of (HILL and Cox), A., 145. menthyl ester, and its derivatives (McCluskey and Sher), A., 363.

and p-nitro-, cyclic alkamine esters of (HECKEL and ADAMS), A., 662.

5-bromo-2:4-dihydroxy- (Rice), A., 150.

bromoiodo-, and chloroiodo- (Hodgson and Beard), A., 245. p-chloro-, sodium salt (mikrobin) as food preservative (von der Heide and Föllen), B., 795.

2-chloro-4-hydroxy- (Hodgson and Jenkinson), A., 877.

6-chloro-3-hydroxy-, synthesis of (MINAEV), A., 149. 2:5-dichloro-3-nitro- (Hodgson and Beard), A., 1075.

p-hydroxy-, condensation of, with chloral (Chattaway and Prats), A., 458.

p-hydroxy-mono- and -di-thio-, and their derivatives (Jörg), A., 875.

o-nitro-, brucine salt (MEISENHEIMER and HÖRING), A., 767. p-nitro, and 3.5-dinitro, allyl esters, oxidation of, and their dibromo-derivatives (FAIRBOURNE and FOSTER), A., 131. γ-bromopropyl ester (Barnes and Adams), A., 672.

p-nitroamino-, ethyl esters, benzoyl and toluoyl derivatives of (Weil, Wyszogród, Wierzbicka, and Sliffrski), A., 240.

3-mtro-4:5-diamino-, derivatives of (LINDEMANN and KRAUSE), A., 469.

thio-, bismuthyl compound of (Browning, Cohen, Gul-BRAUSEN, PHILLIS, and SNODGRASS), A., 855 dithio-, and its ethyl ester (Sakurada), A., 134.

o-thiol-, methylation of (Sachs and Ott), A., 243.

Benzoic acids, hydroxy-, heats of combustion of (Keffler and GUTHRIE), A., 193.

action of halogen acid and hydrogen peroxide on (Leulier and PINET), A., 1186.

nitro-, velocity of esterification of, in glycerol (Kailan and Lipkin), A., 1148.

o-Benzoicsulphinide-3-benzenesulphonylimide, and its benzyl derivative (Klages, Sturm, and Weniger), B., 616.

 $o\hbox{-}Benzoic sulphinide\hbox{-}3-o\hbox{-}earboxy phenyl sulphony limide,}$ salts and dibenzyl ester (Klages, Sturm, and Weniger), B.,

o-Benzoicsulphinide-3-tolnenesulphonylimides, and their salts and derivatives (Klages, Sturm, and Weniger), B., 616.

Benzol, manufacture of (HENRY), (P.), B., 357. purification of (Cox and McDermott), (P.), B., 436.

commercial, removal of sulphur from (Kiemstedt), B., 932. composition of, from carburetted water-gas (Voss), B., 803.

distillation of wash-oil from, under diminished pressure (RASсито), В., 899.

removal of, from gases (I. G. FARBENIND.), (P.), B., 467. apparatus for separation of, from water (Andresen), (P.), B.,

poisoning by. See under Poisoning.

crude, apparatus for preliminary treatment of (Soc. Établ. BARBET), (P.), B., 182.

motor, determination of corrosive sulphur in (KATTWINKEL), B., 737.

See also Benzene.

Benzonaphthaspiropyrans, and their colour changes (Dickinson and Heilbron), A., 884.

Benzonitrile, dielectric constants of salts in (WALDEN and WER-NER), A., 307.

Benzonitrile, o-amino-, acetyl and chloroacetyl derivatives of (v. AUWERS and FRESE), A., 160.

5-amino-2-hydroxy-, 2:4-dihydroxy-, 5-nitro-2:4-dihydroxy-, and 3:5-dinitro-2:4-dihydroxy-, and their derivatives (LINDEMANN, KÖNITZER, and ROMANOFF), A., 980.

Benzonitrile-N-carboxylic acid, o-amino-, esters of (v. Auwens and Frese), A., 160.

Benzonitro-m-xylidides, m-nitro- (Dadswell and Kenner), A.,

4:5-Benzo-octa-1:2:6-oxadiazine, 7-hydroxy-, and its acetyl derivative (v. Auwers and Frese), A., 161.

7:12-Benzophenarsazinic acids, and their salts and hydrochlorides (GIBSON and JOHNSON), A., 1211.

Benzophenone, dielectric constant of vapour of (MASKE), A.,

reduction of, by magnesium amalgam (Gomberg and Bacu-MANN), A., 1190.

derivatives, absorption spectra of (Tasaki), A., 810.

N-alkylimines of (Sommelet), A., 667.

S-aminosemicarbazone (Brown, Pickering, and Wilson), A.,

Benzophenone, o-amino-, oximes of (Meisenheimer, Senn, and Zimmermann), A., 1076.

pp'-diaminothio-, and its diacetyl derivative (Madelung and Völker), A., 54.

2-chloro-5-nitro-, phenylhydrazones (FRIES and TAMPKE), A.,

p-hydroxy-, synthesis of (Minaev), A., 361.

4:4'-dihydroxy-, phthalyl derivativo (Kaufmann and Haas),

3-nitro-6-bromothiol-, and 3-nitro-6-thiol-, and their derivatives (Fries, Eishold, and Vahlberg), A., 783.

Benzophenoneanil, pp'-diamino-, and its hydrochloride (MADELUNG and Völker), A., 54.

Benzophenoneimine, pp'-diamino- (MADELUNG and VÖLKER), A., 54.

Benzopolymethylene compounds (v. Braun and Rath), A., 666. Benzopurpurin, electric double refraction of (WEREIDE), A., 398. p-Benzoquinone, synthesis of (Durand and Banos), A., 566.

p-Benzoquinone, 2:3 - dichloro - 4:5 - dibromo (GEBAUER-Fül-NEGG and MALNIO), A., 240.

2:6 - dichloro - 3:5 - dibromo-, and 2:6 - dichloro - 3:5 - diiodo-(Kohn and Pfeifer), A., 967. tetrachloro-. See Chloranil.

p-Benzoquinones, action of, on proteins (Cooper and Nicholas),

Benzoquinones, halogeno- (Конк and Dömötör), А., 51; (Конк and Zandman), A., 52.

Benzoquinone-4-chloro-2-nitrophenylthiolimine (GEBAUER-FÜL-NEGG and RIESZ), A., 52.

Benzoquinone - 5:5' - dimethoxydianthranilic acid. See 2:5-Di-(4'-methoxy-2'-carboxyanilino)-p-benzoquinone.

1:1-Diethanesulphonyl-△2:5p-Benzoquinonedisulphone. See cyclohexadiene-4-one.

Benzoquinone-5:5'-dihydroxydianthranilic acid (Lewicka), A., 575.

p-Benzoquinonedithiosalicylic acid (SCHARVIN and LUKIN), A., 884. p-Benzoquinonedithioxanthen (SCHARVIN and LUKIN), A., 884.

4:5-Benzo-1:2:3-triazine 1-oxide (Meisenheimer, Senn, and ZIMMERMANN), A., 1077.

1:3-Benzoxazines (MAMELI), A., 163.

Benz-1:4-oxazine-6-arsinic acid, 8-amino-3-hydroxy-, 8-acetyl derivative, and 3-hydroxy- (STICKINGS and MAY & BAKER), (P.), B., 925.

Benzisooxazoles. See Indoxazens.

Benzoxazolone-5-arsinic acid, 3-nitro- (FOURNEAU and TRÉFOUEL).

Benzoxazolonearsinic acids (Benda, Sievers, and I. G. Farben-IND.), (P.), B., 860*.

Benzo-m-xylidides, m-nitro- (Dadswell and Kenner), A., 656. Benzoyl azide, 3:5-dibromo-2-hydroxy- (LINDEMANN and SCHUL-THEIS), A., 262.

chloride, action of, on isatin salts (HANTZSCH and KRÖBER),

nitro-, action of diazomethane on (Dale and Nierenstein), A., 564; (ARNDT, EISTERT, and PARTALE), A., 774. peroxide, thermal decomposition of (REYNHART), A., 356; (ERLENMEYER), A., 1185.

Benzoyl peroxide, action of, on antimony and phosphorus chlorides and on benzene (REYNHART), A., 356. action of chlorinated hydrocarbons on (REYNHART), A., 357.

action of, on wheat flour (Baglioni and Settimi), B., 762. O-Benzoylacacetinidin chloride (PRATT, ROBERTSON, and ROBIN-

son), A., 1083. Benzoylacetone, salts of, and their alcoholates and hydrates (WEYGAND and FORKEL), A., 971.

Benzoylacetone, m- and p-nitro-, and their beryllium derivatives (Burgess), A., 971.

Benzoylacetonitrile, compounds of, with organic bases (Krishna-MURTI and DEY), A., 766.

Benzoyl-p-acetyldiphenylamine (CHAPMAN), A., 874.

Benzoylacrylic acid, mixed anhydride derivatives of (CATTELAIN), A., 458.

Benzoyl-γ-amino-β-hydroxybutyric acids, brueine salts (Τομιτα and Sendju), A., 1058

Benzoyl-m-aminomethylbenzoyl-l-naphthylamino-4:6:8-trisulphonic acid, m-amino-, sodium salt, carbamide (Fourneau, TREFOUEL, and ETABL. POULENC FRERES), (P.), B., 173*

a-Benzoyl-β-p-anisoylstyrene (Allen and Rosener), A., 971. Benzoyl-p-anisylvinylamine (ROSENMUND, NOTHNACEL, and RIESENFELDT), A., 367.

Benzoylazoimide, o-amino- (Heller and Siller), A., 677. Benzoyl-o-benzoic acid, 2':5'-dichloro- (Phillips), A., 155.

3:4-dichloro- (Phillips), A., 362.

3-nitro-4-amino- (Adams, Davidson, Gubelmann, and New-port Co.), (P.), B., 212; (Newfort Co.), (P.), B., 773*.

N-Benzoylbenzoylacetonamine (Benary), A., 1059. ω-Benzoylborneol, and its derivatives (LIPP, KÜPPERS, and HOLL), A., 883.

ω-Benzoylbornyl bromide (LIPP, KÜPPERS, and HOLL), A., 883. a-Benzoyl-β-p-bromobenzoylstyrene (ALLEN and ROSENER), A.,

971. Benzoyl-2:4-dibromophenylhydrazine, o-amino-, and its derivatives, and β -o-nitro- (Chattaway and Walker), A., 353.

ω-Benzoyleamphor, and its derivatives (Lipp, Küppers, and Holl), A., 883.

a-Benzoyl-β-p-chlorobenzoylhydrazine (GILBERT), A., 238.

α-Benzoyl-β-p-chlorobenzoylstyrene (ALLEN and ROSENER), A.,

Benzoyl-di- and -tri-chlorodiphenylamines (Chapman), A., 874. a-Benzoyl-β-p-chloro-m-toluoylstyrene (Allen and Rosener), A., 971.

3-Benzoylcoumarin, 4-hydroxy- (Heilbron and Hill), A., 974. α-Benzoylcrotonanilide, β-amino- (Benary and Kerckhoff), A.,

Benzoyl-1-cysteine (GORTNER and HOFFMAN), A., 581.

O-Benzoyldibenzylbydroxylamine (Gambarjan and Cialtician), A., 350. 3-Benzoyl-4:5-diketo-2-n-hexylfuran, and its copper salt and

anilide (GAULT and FUNKE), A., 561. 3-Benzoyl-4:5-diketo-2-methylfuran, and its copper salt and

anilide (GAULT and FUNKE), A., 561. α-Benzoyl-β-3:4-dimethoxybenzoylstyrene (Allen and Rosener),

A., 971. a-Benzoyl-β-3:4-dimethylbenzoylstyrene (Allen and Rosener),

A., 971. Benzoyldiphenylamines, mono- and tri-chloro-, and p-nitro-

(Chapman), A., 874. β-Benzoyl-aβ-diphenylbutane. See Phenyl α-phenyl-α-benzyl-

propyl ketone. a-Benzoyl-aa-diphenylisobutane. See Phenyl aa-diphenyl-\beta-

methylpropyl ketone. Benzoyldiscatole (Oddo and Mingola), A., 1088.

Benzoylformhydroxamic acids, oximes of (Gastaldi), A., 1185. Benzoylformic acid, 2:4-dinitro-, derivatives of (FAIRBOURNE and FAWSON), A., 244.

N'-Benzoyl-N-formyl-NN'-dimethylcarbamide (Biltz and Bülow), A., 1091.

9-Benzoylhexahydrocarbazole, 6-bromo-, and 6-nitro- (Gurney and Plant), A., 774.

Benzoylhydromethylhydrastinine, 2-nitro- (OBERLIN), A., 681. Benzoylisatoic acids, p-hydroxy-, and o-nitro- (Bogert and McColm), A., 1205.

Benzoylmandelylpropylamide. See a-Benzoyloxyphenylacetpropylamide.

Benzoyl-1-menthone, p-nitro-, oxime of (READ, ROBERTSON, and Соок), А., 773.

Benzoylmethoxydiphenylamines (Chapman), A., 874.

Benzoylmethylcarbinol, fermentation of, by yeast (Neuberg and Komarevsky), A., 700.

1-Benzoyl-7-methyl-2:3-dihydroindole-3-carboxylic acid (KRUBER), A., 158.

Benzoyl - 3:4 - methylenedioxyphenylvinylamine (Rosenmund. NOTHNAGEL, and RIESENFELDT), A., 367.

1-Benzoyl-3-methylindazole (v. Auwers and Frese), A., 161. Benzoyl-2-methylquinoline chloroplatinate (TSCHITSCHIBABIN),

A., 885. Benzoyl-7-methyltetrahydroindazole, 2-o-nitro- (v. Auwens), A., 577.

Benzoyl-o-nitrodiphenylamine (Chapman), A., 874.

Benzoylnitroindazoles, and nitro- (v. Auwers and Demuti), A.,

Benzoyloxyacetoxybenzaldehydes, and their phenylhydrazones (Passu and v. Vargha), A., 152.

o-Benzoyloxyanilinoaeetonitrile (Sипмо), А., 49.

4'-Benzoyloxyazobenzene, 3:5-dibromo-4-hydroxy-, 4-hydroxy-, and its acetyl derivative, and 3-nitro-4-hydroxy- (Bigiavi and Guarducci), A., 454.

3-Benzoyloxybenzaldehyde, 4-hydroxy-, and its phenylhydrazone (Passu and v. Vargua), A., 152.

p-Benzoyloxy-N-benzoylanilinoacetonitrile (SIIIMO), A., 49.

4-Benzoyloxy-2:6-dimethylpiperidine-3-carboxylic acid, ester (I. G. FARBENIND.), (P.), B., 670.

a-Benzoyloxyphenylacetpropylamide (Passerini), A., 149.

p-Benzoyloxy-a-phenylanilinoacetonitrile (Shimo), A., 49.

β-Benzoyl-β-phenylbutane. See Phenyl a-phenyl-a-methylpropyl

6-Benzoyloxy-2-phenyl-7-methylbenzoxazole (HENRICH HEROLD), A., 1183.

Benzoyloxypropylpyridinium bromide, y-p-amino- and y-p-nitro-(BARNES and ADAMS), A., 673.

 δ -Benzoyl- γ -phenyl- $\beta\beta$ -dimethylbutaldehyde, derivatives of (Meer-WEIN, BRÄKE, KOMANT, and MORSCHEL), A., 876.

γ-Benzoyl-γ-phenylpentane. See Phenyl α-phenyl-α-ethylpropyl ketone.

Benzoylphenyltriazine, and its silver derivative (Bertho), A., 679.

(BERETTA, 4-Benzoyl-1-phenyl-1:2:5-triazole-3-carboxylic Massarotti, and Scalia), A., 577.

Benzoylphenylvinylamine (Rosenmund, Nothnagel, and Rie-SENFELDT), A., 367.

C-Benzoylphloroglucinaldehyde (Robertson and Robinson), A.,

Benzoyl-a-picoline chloroplatinate (Tschitschieabin), A., 885. β-Benzoylpropionic acid semicarbazone (Darapsky and van der BECK), A., 672.

3-Benzoylpyridine-2-carboxylic acid, derivatives of (Kirpal and Kunze), A., 255.

Benzoylpyruvic acid, ethyl ester, reactions of (GAULT and FUNKE), A., 561.

2-Benzoyl-∆6-tetrahydrobenzoic acid, and its silver salt (Berlin-GOZZI), A., 561.

2-Benzoyltoluic acids, halogenohydroxy-, isomeric, and their salts (HAYASHI), A., 1187.

α-Benzoyl-β-p-toluoylhydrazine (GILBERT), A., 238. α-Benzoyl-β-p-toluoylstyrene (ALLEN and ROSENER), A., 971.

3-Benzoyl-1:2:2-trimethylcyclopentane-1-carboxylic acid, and its silver salt and derivatives (Salmon-Legagneur), A., 1081. β-Benzoylvinylazobenzene (v. Auwers and Mauss), A., 361.

Benzphenetidide, and nitro-, nitration of (FAWCETT and ROBINson), A., 1181.

Benz-o-phenetidide, m-amino-, m-3-diamino-, m-nitro-, and m-3-nitroamino-, and their derivatives (Weil, Bomberg, and Slifirski), A., 240.

Benzselenazole group, odour and chemical constitution in (BOGERT and STULL), A., 982.

2:3-Benztetrophan (v. Braun and Bayer), A., 258.

Benzthiazoles (FRIES and BUCHLER), A., 781.

Benzthiazoles, amino- (Hunter; Hunter and Soyka; Dyson, Hunter, and Soyka), A., 263; (Dyson, Hunter, and Morris; Hunter and Styles), A., 680.

1-amino-5-eyano-, 3-bromo-, 5-chloro-, and 3-nitro-amino-, and their derivatives (Dyson, Hunter, and Morris), A., 680. amino-1-thiol-, chloro-1-thiol-, and nitro-1-thiol-, and their derivatives (Террема and Sebrell), A., 887.

Benzisothiazoles, amino-, bromo-, chloro-, hydroxy-, and nitro-hydroxy-, and their derivatives (Fries, Eishold, and Vahlberg), A., 782.

Benzthiazole-4-sulphonic acid, 1-thiol-, sodium salt (Teppema and Sebrell), A., 887.

Benzthiodiazoles, 5-amino-, 4:6:7-trichloro-5-hydroxy-, hydroxy-, nitro-, and 4-nitro-5-hydroxy-, and their salts and derivatives (FRIES, VORBRODT, and SIEBERT), A., 779.

Benzthiodiazole-4:5-quinone, 6:7-dichloro-, and its derivatives (FRIES, VORBRODT, and SIEBERT), A., 779.

Benztriazoles (FRIES, SUDHOFF, BRETTSOHNEIDER, MADJID, and ARNEMANN), A., 778.

Benztriazole-5-carboxylic acid, 7-amino-, and its derivatives, and 7-nitro- (LINDEMANN and KRAUSE), A., 469.

Benzyl alcohol, dehydration of (NAMETKIN and KURSANOV), A.,

Benzyl alcohol, o-amino-, derivatives of (v. Auwers and Frese), A., 161.

Benzyl bromide, velocities of reaction of pyridine and triothylamine with, in various solvents (MUCHIN, GINSBURG, and Moissejeva), A., 524.

chloride, and nitro-, velocity of formation of quaternary ammonium salts from triethylamine and (McCombie, Scarвопоиси, and Sмитп), A., 524.

p-bromo-, and its magnesium derivative (QUELET), A., 452. chlorides, nitro-, condensation of, with benzene (OLIVIER and Berger), A., 1177.

chloro-butyl and -propyl, hydroxy-butyl and -propyl, and β -iodoethyl ethers (Bennett and Hock), A., 355.

 β -chloroethyl and β -hydroxyethyl sulphides, p-nitro- (Bennett and BERRY), A., 870.

diacetone ether, and its semicarbazone (HOFFMAN), A., 338. Benzylacetoacetic acid, p-nitro-, ethyl ester (Burgess), A., 971. m-Benzylamidosulphonylbenzoic acid, n-propyl ester (Steinkoff),

Benzylamine, action of, on dextrose (Cameron), A., 858. action of trimethylethylene oxide on (GABEL), A., 1179.

salts, nitration of (BAKER and INGOLD), A., 236. additive compounds of, with mercaptanic platinum compounds (Rây, Bose-Rây, and Guna), A., 441.

Benzylamine, m-bromo-, and its salts (Kindler), A., 759. Benzylaminoformic acid, nitro-, methyl esters of (Baker), A., 454. γ-Benzylamino-β-methylisobutyl alcohol, and its salts (GABEL),

A., 1179. Benzylanisaldoximes, p-nitro- (Brady and Klein), A., 563

β-o-Benzylbenzaldoxime, p-nitro- (BRADY and KLEIN), A., 563. 1-Benzylbenziminazolone-5-arsinic acid (I. G. FARBENIND. and FARBW. VORM. MEISTER, LUCIUS, & BRÜNING), (P.), B., 670. o-Benzylbenzoic acid, esters of (BARNETT, COOK, and NIXON), A.,

349.p-Benzyl-n-butylaminobenzeneazo- β -naphthol and DRUMM), A., 760.

Benzyl-n-butylaniline, and p-hydroxy- (Relley and Drumn), A., 553.

and p-nitroso-, and their salts (RELLY and DRUMM), A., 760. Benzyl-n-butylanilinesulphonic acid, and its barium salt (Reilly and Drumm), A., 553.

Benzyl-n-butyl-p-phenylenediamine, and its salts and benzoyl derivative (Relly and Drumm), A., 760.

a-Benzyl-n-butyric acid, and its ethyl ester (v. Braun and STUCKENSCHMIDT), A., 258.

Benzylcellulose, manufacture of (I. G. FARBENIND.), (P.), B., 296; (PATHÉ CINÉMA), (P.), B., 649.

2-Benzylchloro-2-benzyl-1:5-dimethylpyrazolium iodides, 4-chloro-(v. Auwers and Bahr), A., 678.

Benzyleinnamaldoximes, p-nitro- (BRADY and KLEIN), A., 563. 3-Benzyleoumarin, 4-hydroxy- (HELLBRON and HILL), A., 974.

Benzyl-i-cysteine (GORTNER and HOFFMAN), A., 581.

3-Benzylspirodibenzopyran (DE), A., 773.

9-Benzyldihydroanthranol (BARNETT, COOK, and WILTSHIRE), A.,

1-Benzyl-3:4-dihydroisoquinoline sulphate and N-formyl derivative (Chakravarti, Haworth, and Perkin), A., 1096.

Benzyldimethylamines, hydroxy-, isomeric, and amino-, and nitro-, and their salts (STEDMAN), A., 967.

3-Benzylspiro-2:2'-di-(5:6-β-naphtha-1:2-pyran) (De), A., 773. α-Benzyl-α-ethyl-n-butyro-amide and -nitrile (I. G. FARBENIND.

and Farbw. vorm. Meister, Lucius, & Brüning), (P.), B., 892. Benzylethyldibutylstannane (Law), A., 166.

Benzylgermanic acid anhydride (ORNDORFF, TABERN, and DEN-NIS), A., 1211.

β-Benzyl-a-glucoheptoside and its pentascetyl derivative (GLASER and Zuckermann), A., 650,

1-(Benzyl)hydromethylhydrastinine, 1-o-mono- and 2':4':6'-trinitro- (OBERLIN), A., 681.

C-Benzylhydroxylamine, p-nitro-, and its hydrochloride (Brady and Klein), A., 563.

3-Benzyl-2-(β -2'-hydroxy-1'-naphthylethenyl)- β -naphthapyrylium salts (DE), A., 773.

3-Benzyl-2-(o-hydroxystyryl)benzopyrylium salts (DE), A., 773. Benzylidene diacetate, 3-nitro-4-amino-, acetyl derivative (Hodgson and Beard), A., 244.

Benzylideneacetophenone, a amino-, salts of (Dufraisse and Moureu), A., 884.

a.bromo., action of piperidine on (Dufraisse and Moureu), A., 571.

α-Benzylidene- δ -allylthiosemicarbazide (DE), A., 784.

3-Benzylideneaminobenzazimide (Heller and Siller), A., 677. Benzylideneaminobenzpyrazolone, 1-o-chloro- (Stollé, Nieland, and Merkle), A., 1204.

Benzylidene-3-amino-2-hydroxytetrahydronaphthalene (Thoms and Kross), A., 659.

6-Benzylideneaminoindazole, and o-hydroxy-, and its 1-acetyl derivative (v. Auwers and Demuth), A., 260.

5-Benzylideneamino-1-methylbenztriazole (FRIES, SUDHOFF, and BRETTSCHNEIDER), A., 779.

5-Benzylideneaminophenylbenztriazoles (FRIES, SUDHOFF, and BRETTSCHNEIDER), A., 778.

Benzylideneaminopyridines (KIRPAL and REITER), A., 466.

Benzylideneaniline, thermal decomposition of (Pyl), A., 350. Benzylideneanilines, nitro-, hydrolysis of (Langman, Healy, and

Dutt), A., 768.

Benzylidenebisbenzoylmandelamides, isomeric (Ingham), A., 460.

Benzylidene-1:3-diketohydrindone, 2-chloro- (Robinson and Zaki), A., 1184.

Benzylidene-di-β-naphthol, o-nitro-. See Phenyldi-(2-hydroxy-α-naphthyl)methane, o-nitro-.

Benzylidenediphenylhydroxyethylamines (READ and STEELE), A., 557.

Benzylidene-2:2'-dipyridylamine (KIRPAL and REITER), A., 466. Benzylidenecyclohexylamine (SKITA, WULFF, FEHR, WINTER-HALDER, and MEETZ), A., 157.

Benzylidenehomophthalimide, o-nitro- (Haworth and Pink), A., 1089.

2-Benzylidenehydrazido-5-methylthiazole, and its derivatives (DE), A., 784.

Benzylidene-2-hydroxymethyl-5:6-dimethoxybenzhydrazide (TASMAN), A., 876.

Benzylidenemalonic acid, and nitro-, methyl esters of (BAKER and Eccles), A., 1068.

1-Benzylidene-2-methyl-2- β -benzoylvinylhydrazine, 1-p-nitro- (v. Auwers and Mauss), A., 362.

Benzylidene-2-methyl-6-n-propylcyclohexanone (Cornubert and Le Bihan), A., 1075.

9-Benzylidene-2-nitrofluorene, and halogeno- (Loevenich and Loeser), A., 970.

Beuzylidene-N- β -phenylethylhomophthalimide, o-nitro- (Haworth and Pink), A., 1089.

a-Benzylidene- β -(β -phenylethyl)succinic acid (Bougault), A., 665. Benzylidenephenylnitromethane, p-nitro- (Baker and Wilson), A., 550.

Benzylidene-N-β-piperonylethylhomophthalimide, o-nitro- (Haworth and Pink), A., 1089.

3-Benzylidenepyriminazol-2-one, and 3-hydroxy- and 3-nitro-, and their salts and derivatives (Reindel and v. Putzer-Reybegg), A., 161.

Benzylidenepyruvanilide (Bodforss), A., 775.

Benzylidenepyruvic acid, derivatives of (v. Auwers and Heimke), A., 1203.

Benzylidene-p-toluidine, p-amino-, acetyl derivative (Hodgson and Beard), A., 245.

5-Benzylidene-2-p-tolylbenztriazole (FRIES, SUDHOFF, and BRETT-SCHNEIDER), A., 779.

Benzylmalonic acid, derivatives of (Rupe and Heckendorn), A., 61.

Benzylmalonic acid, α-amino-, and α-amino-n-nitro-, ethyl esters, hydrochlorides of (Rodionov and Fedorova), A., 451.

Benzylmalonic acids, nitro, and their derivatives (Baker and Eccles), A., 1068.

Benzyl-o-methoxybenzaldoxime, p-nitro- (BRADY and KLEIN), A., 563.

Benzyl-7-methoxychromanone, 3-mp-di-hydroxy- (Perkin, Rax, and Robinson), A., 1085.

2-Benzyl-8-methoxyquinazoline (Tröger and Sabewa), A., 1090. Benzylmethylaminoformic acid, methyl ester, and its nitro-derivative (Baker), A., 454.

1-Benzyl-5-methyl-3:3-diethyl-2-pyrrolidone (RAMART-Lucas and FASAL), A., 672.

6-Benzyl-4-methyl-2-n-propylcyclohexanone (Cornubert and Le Bihan), A., 1076.

1-Benzylmethylpyrazoles, 4-chloro-, and their salts (v. Auwers and Bairr), A., 678.

Benzylmethylsulphones, p-nitro- (C. K. and E. H. INGOLD and SHAW), A., 550.

2-Benzyl-α-naphthaquinone, 3-hydroxy- (FIESER), A., 155.

Benzyl-3-nitroanisaldoximes, p-nitro- (Brady and Klein), A., 563.

Benzylnitrobenzaldoximes, p-nitro- (Brady and Klein), A., 563.

Benzyl-5-nitro-2-methoxybenzaldoximes, nitro- (Brady and

KLEIN), A., 563.

Benzyloxyanisoles, chloro-, and nitrochloro- (Oxford and Robinson), A., 1066.

γ-Benzyloxybutyric acid, and its ethyl ester and nitrile (Bennett and Hock), A., 355.

Benzyloxycarbamide, p-nitro- (Brady and Klein), A., 563. β -Benzyloxyethylmalonic acid, ethyl ester (Bennett and Hock),

Benzyloxynaphthaquinones (FIESER), A., 155.

Benzyl β-phenyl-α-anisylethyl ketone, and its derivatives (TIF-FENEAU and Levy), A., 154.

Benzyl-β-phenylethylfumaric acid (Bougault), A., 1188.

Benzyl-β-phenylethylmaleic acid, and its anhydride (Bougault), A., 665.

action of sodium hydroxide on (Bougault), A., 1188.

1-Benzyl β-phenyl-α-1-naphthylethyl ketone (McKenzie and Dennler), A., 243.

Benzyl y-piperidinopropyl ketone (Petit), A., 774.

Benzylpiperonaldoxime, p-nitro- (BRADY and KLEIN), A., 563.

p-Benzyl-n-propylbenzene (Fuson), A., 46.

3-Benzylpyrazole, 4-hydroxy- (Bertho and Nüssel), A., 1204.
3-Benzylpyrazole-5-carboxylic acid, 4-hydroxy- (Bertho and Nüssel), A., 1204.

3-Benzylpyriminazolone, salts of (Reindel and v. Putzer-Rey-Begg), A., 161.

3-Benzylquinoline, 2:4-dihydroxy-, and its benzoyl derivative (BAUMGARTEN and KÄRGEL), A., 574.

"3-Benzylsaccharin," C-hydroxy- (Oddo and Mingola), A., 874.

"3-Benzylsaccharin," C-hydroxy- (Oddo and Mingola), A., 874. 1-Benzyl-1:2:3:4-tetrahydroisoquinoline sulphate (Chakravarti,

HAWORTH, and PERKIN), A., 1096. Benzyltrimethylammonium picrates, m- and p-nitro- (Goss, Hanhart, and Ingold), A., 236.

2-Benzyl-1:3:4-trimethylpyrazolium iodide, 5-chloro- (v. Auwersand Bairs), A., 677.

1-Benzyl-3:3:5-trimethyl-2-pyrrolidone (RAMART and FASAL), A., 672.

a-Benzylvalero-γ-lactone (DARZENS), A., 40.

Benzylxanthanoic acid, and its methyl ester (Conant and Garvey), A., 1177.

Berberoline (OBERLIN), A., 681.

Bergamot oil, characteristics of (LA FACE), B., 732.

Italian (Albricci), B., 457.

Beri-beri, temporary spontaneous cures of, on vitamin-B-deficient diets (Kon), A., 904.

Beryl from Iwaki Province, alkali metals in (Yoshimura), A., 129. Beryllium, preparation and application of (Illig), B., 880.

spectrum of (Paton and Sanders), A., 1117.

arc and spark spectra of (McDonald, Sutton, and McLay; McLennan and Liggett), A., 390.

under-water spark spectrum of (ALLIN and IRETON), A., 801. electrochemistry of (Bodforss), A., 1152.

ionisation potential of (MILLIKAN and Bowen), A., 912; (LATIMER), A., 941.

heat of oxidation of (MATIGNON and MARCHAL), A., 22. reducing properties of (MATIGNON and MARCHAL), A., 430.

filaments for thermionic valves (NYMAN and DUBILIER CON-DENSER CORP.), (P.), B., 450.

Beryllium alloys with aluminium, mechanical properties of (Kroll), B., 489.

age-hardening of (Kroll), B., 488. with copper (Corson), B., 281.

Beryllium compounds, co-ordinated, optical activity of (MILLS-and Gotts), A., 149.
Beryllium carbonate, basic (Taboury), A., 842.

chloride, preparation of (MATIGNON and PIETTRE), A., 430.

Beryllium chloride, anhydrous, and its double salts (SCHMIDT), A., 112.

oxide, extraction of, from minerals (Petit-Devaucelle; Léonard), (P.), B., 330.

purification of (CHAUVENET and DUCHEMIN), A., 1155. crystal structure of (Zachariasen), A., 191.

action of alumina, lime, or magnesia on (MATIGNON and MARCHAL), A., 1155.

selenido, crystal structuro of (Zachariasen), A., 400.

hexabromostannato (Costeanu), A., 741.

telluride, crystal structure of (Zachariasen), A., 96. Beryllium organic compounds :-

Beryllium chloride, double salt of cocaine and (PACE), A., 265.

complex compounds of nitriles and (FRICKE and RODE), A., 829.

Berylliobenzoylpyruvic acid, salts of, and their resolution (Mills and Gotts), A., 149.

Beryllium detection, determination, and separation :detection of, microchemically (Caglioti), A., 1046. detection and determination of (FISCHER), A., 36.

determination of, in alloys with aluminium (KROLL), B., 489. separation of aluminium and (Moser and Niesser), A., 846.

Betaine hydrochloride, manufacture of (TRESSLER and LARROWE Construction Co.), (P.), B., 797.

alloBetulenol, derivatives of (DISOHENDORFER and GRILLMAYER),

Betulin (DISCHENDORFER and GRILLMAYER), A., 249; (VESTER-BERG), A., 882.

derivatives of (Dischendorfer and Grillmayer), A., 60. alloBetulone, dibromo- (DISCHENDORFER and GRILLMAYER), A.,

Beverages, manufacture of (Mackeson), (P.), B., 375. clarification of (Duclaux), (P.), B., 264*

microchemical investigations of iodine in (Settimj), B., 958. alcoholic, ageing of (SIEMENS & HALSKE, and II. and K. ENGEL-HARDT), (P.), B., 793.

determination of methyl alcohol in (WILLIAMS), B., 686. non-fermented, preparation of (Hostetter), (P.), B., 503. nutritional, manufacture of (Peck), (P.), B., 890.

detection of hydrogen peroxide in (HOWARD and CIVEN), B., 154. determination of tartaric acid in (BERG and MÜLLER), B., 24.

Bile, constituents of, in relation to cholclithiasis (PEEL), A., 789. secretion of (NEUBAUER), A., 692.

amino-acids in (TAKAKI), A., 169. solvent action of carbon disulphide on calculi of (Galata), A., 173.

excretion of kynurenic acid in (Kotake and Ichihara), A., 990. chickens', gallodeoxycholic acid from (Yonemura), A., 169. hen's, constituents of (WINDAUS and VAN SCHOOR), A., 272.

Bile acids (Wieland, Schlichting, and v. Langsdorff), A., 242; (Wieland, Schlichting, and Jacobi), A., 247; (Schenck and Kirchhof), A., 562, 665, 1080; (Wieland), A., 767.

constitution of (Borsone and Frank), A., 459, 772; (Borsone and Schwarz), A., 1069.

relation between structure and lipolytic activity of (SHODA), A., 591.

decomposition of, in the organism (ROSENTHAL, WISLICHI, and Pommernelle), A., 791.

influence of, on fat metabolism (IKOMA), A., 791.

effect of, on protein and purine metabolism (Karasawa), A., 899.

influence of, on protein metabolism of sex glands (KARASAWA), A., 171.

relation between snake venom, cholesterol, and (Yonemura and FUJIHARA), A., 171.

diamine derivatives of (Soc. CHEM. IND. IN BASLE), (P.), B., 572. Bile pigments (FISCHER and LINDNER), A., 261.

action of mercuric chloride and hydrogen peroxide on (v. OET-TINGEN and SOLLMANN), A., 586.

muscle hæmoglobin as source of (WHIPPLE and ROBSCHEIT-Robbins), A., 69.

Bile salts, hæmolysis by (Donelly and Mitchell), A., 371. Bilirubin (FISCHER and LINDNER), A., 261.

in blood (Förster and Förstner), A., 475. properties of, in body-fluids (Forral and Sivó), A., 1216.

content of, in human sera (Sivó), A., 1214. detection of, and its instability (Sivó and Forrai), A., 1216. determination of, spectrophotometrically (SHEARD, MANN, and

BOLLMAN), A., 1104.

Bilirubin, determination of, in blood (Perkin), A., 987.

Binary mixtures. See Mixtures, binary.

Binary systems, liquid and vapour compositions in (Calingaert and HITCHCOCK), A., 417.

containing trinitro-m-cresol, equilibria in (Efremov and Tiono-MIROVA), A., 1182.

Binding materials, hydraulic, control of rate of setting of (Skanska CEMENT-AKTIEBOLAGET), (P.), B., 603.

acceleration of the setting of (CHEM. FABR. GRÜNAU, LAND-SHOFF & MEYER, and KIRCHNER), (P.), B., 816.

compositions as catalytic agents for (Schneider), (P.), B., 110.

acid-proof, manufacture of (PORTLAND-CEMENTWERK BALIN-CEN), (P.), B., 703.

Biochemistry, technical applications of electrodialysis in (Reit-STÖTTER), B., 849.

comparative (Komori, Sendju, Sagara, and Takamatsu), A., 170; (Komori and Sendju), A., 171.

Bioelectricity (OSTERHOUT), A., 1109.

Biological reactions, brought about by light, influencing of (PINcussen), A., 482.

Bionio acid, preparation of (Goebel), A., 647.

"Bios," activity of preparations of (WILLIAMS, WILSON, and von DER AHE), A., 592.

Biosan, and its hexa-acetyl derivative (Hess and Friese), A., 44. Bioses, reducing, degradation of (ZEMPLÉN), A., 44, 545, 752, 859. Birch wood, pulp from (CABLE, McKEE, and SIMMONS), B., 327.

Birds, reproduction in (RIDDLE and BURNS), A., 1107. edible domestic, chemistry of fat of (HEPBURN and KATZ), B., 705.

Bisacenaphthenedione, 3:3'-dichloro- (Dziewoński and Zahr-ZEWSKA-BARANOWSKA), A., 871.

Bis-N-acetylacetylacetonamine, thio- (Benary), A., 1059

Bisalkylxanthens, purification of (ROTHMANN, STEIN, and BOEH-RINGER & SÖHNE), (P.), B., 429*

9:10-Bis-(4'-amino-3'-methylphenyl)anthracene (I. G. FARBEN-IND.), (P.), B., 518.

9:9-Bis-(4'-amino-3'-methylphenyl)anthrone (I. G. FARBENIND.), (P.), B., 518.

9:10-Bis-p-aminophenylanthracene (I. G. FARBENIND.), (P.), B.,

9:9-Bis-p-aminophenylanthrone (I. G. FARBENIND.), (P.), B., 518. Bis-(5-bromo-4-methyl-3-β-carboxyethyl-2-pyrryl) methene hydrobromide (Fischer and Andersag), A., 1206.

Bis-(2-bromo-3-methyl-4-ethyl-5-pyrryl)methene, and its hydrobromide (Fischer, Halbig, and Walach), A., 470. s-Bis-2:5-dibromophenylthiocarbamide (Dyson, George, and

HUNTER), A., 351. Bis - (1-carbethoxy - 2 - methyl - 3 - $\beta\beta$ - dicarbethoxyethyl-4-pyrryl)-

methane (FISCHER and HEISEL), A., 1089. Bis-(1 - carbethoxy - 2 - methyl-3- $\beta\beta$ -dicarbomethoxyethyl-4-pyrryl)-

methane (FISCHER and HEISEL), A., 1089. Bis-as-carbonyldi-p-tolylhydrazine (STOLLÉ, NIELAND,

Merkle), A., 1204. Bis-as-carbonyl-o-tolylethylhydrazine (Stollé, Nieland,

MERKLE), A., 886. Bis-as-carbonyl-o-tolylmethylhydrazine (Stollé, Nieland, and

MERKLE), A., 886. 10:10'-Bis-4-carboxy-5:10-dihydrophenarsazine (Burton and Gib-

son), A., 264.

1:4-Bis(chlorohydroxymethyl)benzene-2:5-dicarboxylic acid, dilactone of (DE DIESBACH and GUHL), A., 767.

1:4-Bischloromethylbenzene-2:5-dicarboxylic acid, and its derivatives (De Diesbach and Guhl), A., 767.

1:4-Bisdichloromethylbenzene-2:5-dicarboxylic acid, and its derivatives (DE DIESBACH and GUHL), A., 767. Bischrysofluorenyl (VANSCHEIDT), A., 140.

Biscuits, manufacture of, with ultra-violet light (ELIAS), (P.), B.,

s-Bisdimethoxyphenylthiocarbamides (Dyson, George, Hunter), A., 351.

Bisdimethylaminophenylarsenious acid (RAUDNITZ and HELLER), A., 454.

Bisdi-a-naphthofluorenyl (VANSCHEIDT) A., 140.

Bisdiphenylene-ethane, 2:2'-dinitro- (Korczyński, Karlowska, and Kierzek), A., 348.

Bisdiphenylene-ethylene, 2:2'-dinitro- (Korczyński, Karlowska, and KIERZEK), A., 348.

Bisdisopropylideneglucosyl disulphide (FREUDENBERG and WOLF). A., 230.

Bis-(4-\(\beta\)-ethylcarbonato-2:3-dimethyl-5-pyrryl)methene hydrochloride (FISOHER, HALBIG, and WALAOII), A., 470.

Bis-4-cyclohexylnaphthaleneindigo. See Dicyclohexyldinaphthyl-

Bis-2-cyclohexylnaphthalenelignone. See Dicyclohexyldinaphthylquinone.

Bishopite, production of bromine and magnesium chloride from (Preussische Bergwerks- & Hütten and Büchner), (P.), B., 189.

Bis-(4-hydroxyphenyl)isatin, phthalyl derivative (KAUFMANN and HAAS), A., 1083.

ββ'-Bisiodomercuridiethyl ether (Schoeller), (P.), B., 459.
 Bismuth, spectrum of (Thorsen), A., 179; (Goudsmit and Back), A., 706.

L-emission spectra of (EDDY and TURNER), A., 491. spark spectra of, in various media (MIYANISHI), A., 910. crystals, optical constants of (DIY and ROWSE) A. 505, 1120

crystals, optical constants of (Dix and Rowse), A., 505, 1126. thermo-electric properties of (Terada and Tsutui), A., 717. thermo-electric effect in (Todesco), A., 505.

Hall effect in (KLAIBER), A., 614.

Hall effect in sputtered films of (HARGITT), A., 99.

Hall effect in crystals of (Hears), A., 289, 817. electro-deposition of, in acid solution (Jílek and Lukas), A., 322.

molten, surface tension of (BIRCUMSHAW), A., 719. velocity of solution of, from amalgams (Gróн), A., 1033. effect of, on copper (Hanson and Ford), B., 280.

manufacture of medicaments containing (Chem.-Pharm. A.-G. Bad-Homburg and Liebrecht), (P.), B., 60.

colloidal, preparation of (GUTBLER and LEUTHEUSSER), A., 933. medical preparations of (LAPETTA and REISLER), (P.), B., 203.

Bismuth alloys with antimony, cadmium, and zinc, electrolysis of (Kremann and Troster), A., 25. with lead (Sernissy), (P.), B., 195; (Yoshikawa), (P.), B., 338.

with lead (Sernissy), (P.), B., 195; (Yoshikawa), (P.), B., 338 viscosities of (Bienlas and Sauerwald), A., 508.

with tin, internal friction of (SAUERWALD and TÖPLER), A., 14. Bismuth salts, manufacture of (CHEMNITIUS), B., 748.

Bismuth silicate, manufacture of (ZELTNER), (P.), B., 218, 965. potassium sulphates (CAGLIOTI and STOLFI), A., 951.

Bismuth organic compounds:—
with hydroxy-acids (Browning, Cohen, Gulbransen, Phillis,
and Snodgrass), A., 855.

Bismuth thiolacetamide (HARDEN and DUNNING), A., 544. Chlorobismuthates (CHARRIER), A., 1064.

Bismuth detection, determination, and separation:

detection of (Benedetti-Pichler), A., 331; (Kubina and Plichta), A., 1048.

determination of (REISSAUS), A., 334.

determination of, microchemically (STREBINGER and FLASCH-NER), A., 334.

determination of, volumetrically (STRECKER and HERRMANN), A., 1048.

determination of, in lead (Evans), B., 911.

determination of, in tissues, excreta, blood, and bone (Sultza-Berger), A., 481.

determination of lead in, spectroscopically (Schweitzer), A., 1046.

determination of, in urine (BAGGESGAARD-RASMUSSEN, JACKE-ROTT, and SCHOU), A., 788.

determination and separation of, by means of organic bases (Berg and Wurm), A., 847.

Bismuthotartaric acid, salts (PORTILLO), A., 647. salts and derivatives of (PRADEL), A., 228.

Bis-p-nitrobenzylacetoacetic acid, ethyl ester (Burgess), A., 971. Bis-p-nitrophenyliminobenzoyl disulphide (Fries and Buchler), A., 782.

4:4'-Bis-op-dinitrophenyl-2:2'-dinitrodiphenylamine (Le Fèvre, Moir, and Turner), A., 1062.

s-Bis-3.5-dinitrophenylthiocarbamide (Dyson, George, and Hunter), A., 351.

Bisnitrosyl-o-methoxybenzyl (Brady and Bennett), A., 564. Bisnorcholanic acids, and their esters and sodium salt (Wieland, Schlichting, and Jacobi), A., 247.

Bisnorcholyldimethylcarbinol (Wieland, Schlichting, and Jacobi), A., 247.

Bisnorcholyldiphenylcarbinol (WIELAND, SCHLICHTING, and JACOBI), A., 247.

Bisnorcholyl methyl ketone, and its derivatives (WIELAND, SCHLICHTING, and JACOBI), A., 248.

Bisnorcholyl phenyl ketones (Wieland, Schlichting, and Jacobi), A., 248.

α-δ-Bis-(γ'-phenoxypropylamino)butane hydrobromide (Dudley, Rosenheim, and Starling), A., 343.

Bis-α-phthalide-α-carboxylic acid, ethyl esters, isomeric (Cor-NILLOT), A. 1070.

Bis-pp'-thiophenylthiolacetic acid (Behaghel), A., 149.

Bistriphenylacetylhydrazine (WIELAND, HINTERMAIER, DENN-STEDT, and LORENZO), A., 237.

s-Bistriphenylcarbohydrazide (Wieland, Hintermaier, Dennstedt, and Lorenzo), A., 237.

Bis-ββ'-triphenylmethylcarbazone (Wieland, Hintermaler, Dennstedt, and Lorenzo), A., 237.

Bisulphites. Sco Sulphites, acid, under Sulphur. Bitter orange oil, Italian (ALBRICCI), B., 458.

Bitumens, extraction of, from oil-shales (PRELLER), (P.), B., 210. extraction and decomposition of (DEUTSCHE ERDÖL), (P.), B., 517.

production of, from acid resins (WILHELM), (P.), B., 596. neutral, production of (Sautermeister and Wilhelm), (P.), B., 182.

effect of moisture on electrical properties of (Lee and Lowry), B., 225.

production of emulsions of (Thompson and McGivern), (P.), B., 135.

Bituminous compositions (Kirschbraun), (P.), B., 356. manufacture of (Alexander), (P.), B., 39, 901*. from rubber (Campbell), (P.), B., 149.

plastic (Reeve and Barrett Co.), (P.), B., 836.

materials, extraction of (I. G. FARBENIND.), (P.), B., 403.

treatment of (Jakowsky), (P.), B., 67. distillation of (Daniels; Jakowsky), (P.), B., 770.

distillation or coking of (Kohlenveredlung Ges.m.b.H. and Geissen), (P.), B., 99. destructive distillation of (Smith), (P.), B., 6; (Forrest

and HAYDEN), (P.), B., 180. low-temperature distillation of (Kohlenveredlung Ges.),

(P.), B., 721. charging and discharging of trays in dry distillation of

(PATENTAKTIEB. GRÖNDAL-RAMÉN), (P.), B., 180. hydrocarbons from distillation products from (Braunkohlen-

PRODUKTE, BUBE, and ERLENBACH), (P.), B., 245. cracking of (BRAUNKOHLEN-PRODUKTE), (P.), B., 245. treatment for transport and utilisation of (Testrup, Boberg,

and Techno-Chemical Labs.), (P.), B., 740. mixtures, consistency of (Spiers), B., 38.

for roads (Universal Rubber Paviors and Brown), (P.), B., 367.

Biuret, complex compounds of, with copper and nickel (TRAUBE and WOLFF), A., 232.

Blasting (FARRELL and HELMHOLTZ), (P.), B., 158. Bleaching, process of (THORNE), (P.), B., 874.

stabilisation of baths for, containing peroxides and persalts (Benckiser, Reimann, and Draisbach), (P.), B., 252.

of celluloso acetate (BAYBUTT, FARROW, and EASTMAN KODAK Co.), (P.), B., 362. of cellulose materials (RICHTER, SCHUR, and BROWN Co.), (P.),

of cellulose materials (Richter, Schur, and Brown Co.), (P.), B., 811.
of furs (Stein Fur Dyeing Co.), (P.), B., 249, 421.

of pulp (THORNE), (P., B., 214, 905; (MERRILL), (P.), B., 473. of sulphite-cellulose (Rys), B., 9.

of textiles (Conrad), (P.), B., 627.

apparatus for (Winter and Jordan), (P.), B., 747; (Mohr.), (P.), B., 812.

of wood cellulose (Wenzl), B., 810.

Bleaching extracts, determination of total sulphur dioxide set free by acid from (Burton), B., 757.

Bleaching liquors, preparation and clarification of (MacManon and Mathieson Alkali Works), (P.), B., 166.

control of manufacture of (Rys), B., 187.

relation of concentration of, to specific gravity (ROBERTS), B., 479.

explosion risks in use of liquid chlorine for (Schönberg), B., 875; (Kirmreuther and Purrmann), B., 936.

determination of available chlorine in (HAUSNER), B., 521, 875. Bleaching powder, instability and explosiveness of (KAST and METZ), B., 297.

Blende, production of, from lead-zinc ores (Langguth), (P.), B., 337.

roasting of (Harvey and Nettle), B., 249. furnace for (Balz), (P.), B., 224. kilns for (Balz), (P.), B., 47.

Blood, preparations of (PARET), (P.), B., 457.

visible and ultra-violet spectra of, and its constituents (Suhr-

MANN and Kollath), A., 688.

physico-chemical system of (DILL, VAN CAULAERT, HURXTHAL, STODDARD, BOCK, and HENDERSON), A., 688; (BOCK, DILL, HURXTHAL, LAWRENCE, COOLIDGE, DAILEY, and HENDERSON), A., 786.

effect of injection of calcium on electrolyte equilibria in (Con-

DORELLI), A., 584.

effect of injection of potassium salts on electrolyte content of (Condorelli), A., 985.

effect of potassium oxalate on electrolytes of plasma and (EISENMÂNN), A., 370.

equilibria of gases and electrolytes in (HASTINGS, SALVESEN, Sendroy, and Van Slyke), A., 476.

determination of flow of, by ethyl iodide (STARR and GAMBLE), A., 270.

relation of tissue acidity and blood acidity to volume flow of (HERTZMAN and GESELL), A., 1101.

effect of respiratory gases on density of (Hamilton and Bar-BOUR), A., 1101.

changes in acidity of (GESELL and HERTZMAN), A., 67; (HERTZ-MAN and GESELL), A., 583.

effect of tissue preparations on acid-base equilibrium of (BANUS

and Katz), A., 1103. effect of insulin and dextrose on acid-base balance of (Gibson,

GREER, and BARER), A., 1216. alkali reserve of (KHARIT), A., 985.

regulation of hydrogen-ion concentration of (Liu), A., 786.

influence of meals on hydrogen-ion concentration of, during forced respiration (LEPPER and MARTLAND), A., 892.

hydrogen-ion concentration of, in pathological eases (SCHADE), A., 20.

distribution of gases in, between corpuscles and plasma (HART-RIDGE and ROUGHTON), A., 167.

anaërobic defibrination of (EISENMAN), A., 370.

action of emulsin and of taka-diastase on (GABBE), A., 892. action of insulin on constituents of (VIRTANEN and KARSTRÖM), A., 282.

effect of administration of insulin and dextrose on constituents of (KATAYAMA and KILLIAN), A., 380.

relation between lymph and, in dogs (ARNOLD and MENDEL), A., 475.

constituents of sweat, urine, and (TALBERT and HAUGEN; Talbert, Silvers, and Johnson), A., 788.

effect of asphyxia on (Collip), A., 1101.

effect of dyes on (Wales, Munch, and Schwartze), A., 1213. effect of muscular work on constituents of (Piazza), A., 374. effect of narcotics and stimulants on (BRAUCHLI and SCHNIDER), A., 173.

coagulation of (Kugelmass), A., 270. chemistry of (Wadsworth, Maltaner, and Maltaner),

A., 690. relation of glycolysis to (STUBER and LANG), A., 68.

dyes and arsenic compounds as anticoagulants for (Lefrou), A., 277.

lithium citrate as anticoagulant for (DE TONI), A., 371. investigation of, with the interferometer (Amschler), A., 69. in adrenalectomy (ESTRADA and DEULOFEU; ROGOFF and Stewart), A., 71.

effect of adrenalectomy on inorganic constituents of (BAUMANN and Kurland), A., 273.

changes in, during fasting (LENNOX, O'CONNOR, and BELLINGER), A., 72.

in fever, acid, alkali, and salt content of (AKIYA), A., 789. in nephritis (Henderson, Bock, Dill, Hurxthal, and van Caulaert), A., 1217.

in leprosy (PARAS), A., 1106.

in leucæmia, glycolysis in (SCHMITZ and GLOVER), A., 1105. normal and leucæmic, glycolysis in (FALCON-LESSES), A.,

adrenaline content of (SCHLOSSMANN), A., 476.

ammonia in (KLISIECKI, MOZOLOWSKI, and TAUBENHAUS; Mozolowski and Taubenhaus; Adlersbergaud Tauben-HAUS), A., 369.

ammonium salts in (PARNAS), A., 369.

influence of starch injection on amylase in (MAGARAM and ENGELHARDT), A., 697.

bilirubin in (Förster and Förstner), A., 475. calcium and potassium content of (KYLIN), A., 1102. Blood, calcium, potassium, and sodium in, after ingestion of calcium chloride (WEBER and KRANE), A., 481.

disappearance of carbohydrates from (REINHOLD and KARR), A., 480.

complex carbohydrates in (GABBE), A., 892.

absorption of carbon dioxide by tissues and (Snaw), A., 167. carbon dioxide equilibrium in alveolar air and (DILL, HURXTHAL, VAN CAULAEET, FÖLLING, and BOCK; DILL, LAWRENCE, HURNTHAL, and BOCK), A., 984.

catalase in, at high altitudes (ALEXEEV), A., 893. in experimental anamia (Bernstein), A., 373. action of powdered metals on (L10), A., 1214. influence of nutrition on (BERNSTEIN), A., 382.

action of thyroid extracts or iodino on (TIMOFEJEVA), A., 380. chlorides in, in pernicious anemia (CAMERON and FOSTER),

solubility and distribution of chloroform in (WINTERSTEIN and Hirschberg), A., 893.

concentration of dextrose and chlorides in (NI), A., 68.

action of choline and histamine on excretion of dyes from (FARKAS and TANGL), A., 481.

effect of hormones and organ extracts on exerction of dyes from (Tangl; Farkas and Tangl), A., 485.

possibility of change of one enzymic activity into another in (Gramenitzki), A., 793.

effect of exercise on fat in (PATTERSON), A., 899. effect of iodine on fat in (Büsseм), А., 1219.

liberation of hydrogen sulphide from, by action of hydrogen (KÜHNAU), A., 795. lactacidogen in (A. and J. Roche), A., 1214.

lactic acid in, after administration of lævulose (LANYI), A., 588. influence of muscular work on (GROAG and SCHWARZ), A., 373. destruction of lactic acid in cells of (WARKANY), A., 690.

effect of menstruation on lipins in (OKEY and BOYDEN), A., 480. action of, on maltose (HYND and MAOFARLANE), A., 483. mineral salt content of, in diseaso (Blumgarten and Rohden.

BURG), A., 586. peptide nitrogen of, in arterial hypertension (Jackson,

SHERWOOD, and MOORE), A., 988. distribution of phosphorus in (Mâchebœuf), A., 370; (Rona and Iwasaki), A., 689.

inorganic phosphorus in, with reference to concentration of calcium (GROLLMAN), A., 584.

acid-soluble organic phosphorus in (Jost), A., 584. yellow pigment in (Enderlen, Thannhauser, and Jenke),

proteases of (UTKIN-LJUBOVZOV), A., 585.

proteins in, in anæmia (Bodansky, Morse, Kiech, and Bram-KAMP), A., 1105.

sugar in, in health and in diabetes (SHAPLAND), A., 587. regulation of (HAGEDORN), A., 68.

rôle of hepatic amylase in regulation of (DAVENPORT), A., 68. curves of (LENNOX and BELLINGER), A., 1216.

total (Everett, Shoemaker, and Sheppard), A., 1102.

muscle glycogen as source of (Soskin), A., 986. in anæsthesia (Mackay), A., 791.

effect of alkalis on (BATTTE and McDowall), A., 986.

effect of dextrose administration on (Lennox and Bel-LINGER), A., 693, 986.

effect of injections of dextrose, alone and with insulin, on (Thalhimer, Raine, Perry, and Buttles), A., 78.

effect of Witt's peptone on (Menten and Manning), A., 481. effect of parasympathetic poisons on (Sakurai), A., 171, 589. non-dextrose fraction of (Sjollema), A., 789, 1102.

sugar content of cerebrospinal fluid and (Levinson), A., 1217. relation between sugar, cholesterol, and pressure in (DÖRLE and Liehr), A., 988.

glycolysis and distribution of reducing sugar in (Downs), A., 68. effect of adrenaline on sugar and phosphorus in (BARREN-SCHEEN, EISLER, and POPPER), A., 1222

non-protein sulphur compounds of (HUNTER and EAGLES), A., 477; (REED and DENIS), A., 787.

effect of uranium nephritis and of administration of sulphur on sulphur compounds in (DENIS and REED), A., 695.

action of, on sulphides (DENIS and REED), A., 476. urea in (Talbert, Finkle, and Katsuki), A., 1105.

formation of uric acid precursors in (ENGELHARDY), A., 375. influence of diet on uric acid in (HARDING, ALLIN, and EAGLES), A., 1108.

manufacture of compositions from (HOMBERG), (P.), B., 609.

Blood, alligator's, electrolytes in serum of (Austin, Sunderman, and CAMACK), A., 584.

capillary and venous, sugar content of, after muscular activity (Dörle and Liehr), A., 787.

urea content of (Svensgaard), A., 689.

of cattle, sugar content of (AVDEJEVA, PROVATOROYA, SAVITSCH, and THAL), A., 986.

cows and goats, chloride content of, during milking (Krestovnikov), A., 586.

tension of gases in, of goats (Huggett), A., 369. hen's, increase in calcium of, during egg production (Hughes,

TITUS, and SMITS), A., 989.

human, composition and respiratory changes in, during work (Bock, Dill, Hurxthal, Lawrence, Coolidge, Dailry, and Henderson), A., 786.

oxygen consumption of (Endres), A., 984.

reducing sugars and non-sugars in (Somogyi), A., 1214. inorganic sulphates in (LOEB and BENEDICT), A., 893.

concentration of urea in (E. M. and L. L. MACKAY), A., 1214. of marine and fresh-water invertebrates, carbon dioxide content of (Duval and Portier), A., 786.

of mice in anamia, cholesterol, lecithin, and fatty acids in (DE ABERLE, HOSKINS, and BODANSKY), A., 586.

oxalated whole, determination of calcium in (ROTHWELL), A., 985.

post-mortem, determination of sugar in (PAUL), A., 373.

rabbits', effect of turnips and turnip juice on constituents of (Horvath), A., 792.

Blood detection and determination :-

preservation of, for analysis (Sohwentker), A., 1214.

detection of, with pyramidone (Elzas and Landsberg), A., 167. detection of hydrocyanic acid in (SENSI), A., 277.

detection and determination of oxalates in (Guillaumin),

A., 475. determination of amino-nitrogen of (CANNAVO), A., 585.

determination of ammonia in (Rehberg), A., 67.

determination of amylase in, with the viscosimeter (Elman and McCaughan), A., 986.

determination of bilirubin in (PERKIN), A., 987. determination of calcium in (SHARPE), A., 1102; (CAVEN and Cantarow), A., 1214.

determination of carbon monoxide in, and determination of blood volume (VAN SLYKE and ROBSCHEIT-ROBBINS), A.,

determination of carbon dioxide in (RAFFEL), A., 1101.

determination of catalase in (Golzov and Jankovsky), A., 689; (GAGARINA), A., 1103.

determination of chlorides in (Short and Gellis), A., 689; (Whitehorn), A., 985.

determination of chlorides, phosphates, and sulphates in (Yoshimatsu), A., 167.

determination of chlorine in (SMIRK), A., 271; (DELAVILLE and Broun), A., 787.

determination of co-zymase in (v. Euler and Nilsson), A., 168. determination of dextrose in (HANSEN), A., 168; (SCHULTE; FONTES and THIVOLLE), A., 690; (ELICABE), A., 986.

determination of dextrose in, in presence of disaccharides (SJOLLEMA), A., 476.

determination of neutral fat and cholesterol in (Heckscher),

determination of hydrogen-ion concentration in (McClendon, RUSSELL, and TRACY), A., 69; (EISENMAN), A., 370.

determination of iron in, electrometrically (KING and HOWARD), A., 1214.

determination of iron in, microchemically (SMIRK), A., 271. determination of lactic acid in (RONZONI and WALLEN-LAW-

RENCE), A., 985. determination of lactic acid in, colorimetrically (DISOHE and Laszlo), A., 985.

determination of nitrogen in, micro-colorimetrically (KLEIN-MANN), A., 370.

determination of oxalic acid in (KHOURI), A., 689.

colorimetric determination of oxygen saturation of (Holló and Weiss), A., 786.

determination of phosphorus in (GADDUM), A., 68.

micro-determination of phosphorus in (Machebœuf and Zwilling; Machebœuf), A., 893.

determination of potassium in, colorimetrically (Yoshimatsu),

determination of small quantities of quinine in (Roy), A., 371.

Blood detection and determination :-

determination of sodium in, colorimetrically (Yoshimatsu), A.,

determination of sugar in (Salomon), A., 68; (Fábián; Somogyi), A., 69; (Baudcuin and Lewin), A., 476; (Csik and Juhasz; Martinson), A., 787.

determination of sugar in, colorimetrically (Glassmann), A.,

micro-determination of sugar in (Blumenthal), A., 1214.

determination of sugar and reducing substances in (LAPA), A.,

determination of sulphur compounds in (Denis and Reed), A., 167.

determination of urea in (KAHANE), A., 271; (CHABANIER, LEBERT, and WAHL), A., 476.

Blood-corpuscles, dispersed phase of (EGE), A., 892. rabbits, degradation of dextrose by (IRVING), A., 68.

red, uptake of dyes by (Junisic), A., 369.

red human, permeability of (WAKEMAN, EISENMAN, and PETERS), A., 786.

sheep's, uptake of oxygen and carbon monoxide by (HART-RIDGE and ROUGHTON), A., 167.

Blood pigments (HAUROWITZ), A., 686, 1099, 1100. hydrolysis of, by alkalis (WAELSCH), A., 893.

determination of, spectrophotometrically (Kennedy; Zilzer), A., 369.

Blood plasma, acid-base equilibrium in, in health and disease (PETERS, BULGER, and EISENMAN), A., 587.

effect of menstruation on calcium content of (Sharlit, Cors-CADEN, and LYLE), A., 790.

distribution of chlorides and proteins between synovial fluid and (FREMONT-SMITH and DAILEY), A., 69.

free sugar in (BIGWOOD and WUILLOT), A., 1102.

dogs', proteins of (MATTHEW), A., 1103.

inorganic constituents of, after removal of the hypophysis (MAZZOCCO), A., 988.

human, determination of proteins of (Starlinger, Späth, and Winands), A., 584.

Blood-serum, effect of stimuli on refractive index of (Balachov-sky and Turbaba), A., 689.

electrolytes of (Austin, Sunderman, and Camack), A., 584. oxidation in (T. R. and W. Parsons), A., 1101.

distribution of calcium in (UPDEGRAFF, GREENBERG, and CLARK), A., 167.

effect of ingestion of calcium lactate on calcium in (BAUER and Ropes), A., 584.

proteolytic enzymes in (v. Falkenhausen), A., 787. action of lead salts on (Brooks), A., 893.

lipoid equilibrium in (Achard, Grigaut, and Leblanc), A., 588. "nitrogen formula" for (Laudat), A., 476.

precipitation of proteins of, by acids and salts (LORBER), A., 583. sugar and cholesterol in, during fasting (SHOPE), A., 1217.

tryptic activity of (STEPPUHN and UTKIN-LJUBOVZOV), A., 585. of various animals, iron in (HENRIQUES and ROCHE), A., 689.

human, diffusibility of calcium in (LOEB and NICHOLS), A., 584, 1102. normal and pathological, spectrophotometric analysis of

(Magath and Sheard), A., 373. rats', calcium content of (Cameron and Williamson), A., 1102.

determination of total base in (VAN SLYKE, HILLER, and BERTHELSEN), A., 1228. determination of calcium in (PINCUSSEN and SCHIMMELPFENG),

A., 585.

determination of copper and iron in (WARBURG), A., 985. determination of plasmal in (Feulgen and Imhäuser), A., 369.

Blowflies, repellants for (ROARK, PARMAN, BISHOPP, and LAAKE),

Blubber, detection of (DAVIDSOHN), B., 882.

Blueberries, non-volatile acids of (Nelson), A., 799.

Blue grass, Kentucky. See Poa pratensis. Blue-prints, manufacture of (GAY), (P.), B., 861.

Blythite in manganese garnet from Amelia (Shannon), A., 1165. Boa constrictor, fat of (Kerr), A., 987. Bodies, black, quantising of radiation from (GUTH), A., 807.

Body, effect of ultra-violet light on mineral balance in (KROETZ), A., 589.

Body fat, effect of diet on (MENDEL and ANDERSON), A., 375. Boehmite (De Lapparent), A., 748.

Boilers, precipitation from water of material forming scale in (Manz), (P.), B., 622.

Boilers, prevention of scale in (LA SUVAIO Soc. ANON.), (P.), B., 894.

compositions for (KARPLUS), (P.), B., 958. use of colloids for (SAUER and FISCHLER), B., 926.

prevention and removal of scale from (NEELEY and WATKINS), (P.), B., 240.

locomotive, priming of saline waters in (JOSEPH and HANCOCK), B., 687.

Boiler feed water. See under Water.

Boiler plates, tensile properties of, at temperatures between 20° and 600° (URBANCZYK), B., 724.

Boiling apparatus, cleaning of (ULLMANN), (P.), B., 353.

Boiling point, electrical precision apparatus for determination of (Pearce and Hicks), A., 16.

relation between critical temperature, melting point, and (VAN

AUBEL), A., 101.

of organic compounds (TIMMERMANS), A., 1131.

Boletus edulis, mycetin from (Dous and Ziegenspeck), A., 383. Bombax heptaphyllum, oil from seeds of (Telles), B., 706. Bombix mori, amino-nitrogen in eggs of (Tirelli), A., 1108. Bone, physical chemistry of formation of (DHAR), A., 695.

apparatus for destructive distillation of (Shearman), (P.), B.,

phosphatase of (Martland and Robison), A., 699. function of phosphatase in formation of (KAY), A., 174.

rôle of thyroid and parathyroids in differentiation of (HAMметт), А., 594.

linoleic acid content of grease from (STADLINGER and TSCHIRCH), B., 914.

of dogs, changes in, in relation to diet (Jones), A., 373. human, lithium and strontium in (DESCREZ and MEUNIER),

of rats, effect of diet on composition of (Chick, Kovenchevsky, and Roscoe), A., 176.

Borates. See under Boron.

Borax. See Sodium borate.

Bordeaux mixture, influence of form and proportion of lime used and method of mixing on production of (Holland, Dunbar, and Gilligan), B., 875.

Boric acid. See under Boron.

Borneol, manufacture of esters of (Blum and Soc. Alsacienne DE PROD. CHIM.), (P.), B., 797*.

isoBorneol, catalytic action of reduced copper on (IKEDA), A.,

endoBorneol, and its derivatives (ACHMATOWICZ), A., 250. epiBorneol acetate (Bredt and Pinten), A., 156.

n- and iso-Borneols, manufacture of (Austerweil), (P.), B., 764. Borneolglycuronic acid, preparation of (QUICK), A., 990.

Bornyl chloride, oxidation of, by chromic acid (Bredt and

PINTEN), A., 156. isoBornyl salts (MEERWEIN, HAMMEL, SERINI, and VORSTER), A., 568.

δ-d-n- and iso-Bornyl semicarbazides, and their hydrochlorides (Goodson), A., 1082.

d-Bornylamine, separation of, from d-neobornylamine (Goodson),

Bornylenecarboxylamide (Houben and Pfankuch), A., 364. β-Bornyl-a-glucoheptoside, and its pentaacetyl derivative (GLASER and Zuckermann), A., 650.

Boroacetic anhydride, catalytic action of, in combination of organic acids with pinene (Dupont and Pascaud), A., 883.

Boron, atomic weight of (Briscoe, Robinson, and Smith), A., 392.

structure of (Collins), A., 5.

preparation of (Andrieux), A., 844.

spectrum of (SAWYER and SMITH), A., 489.

instantaneous spectrum of (NAGAOKA, NUKIYAMA, and FUTA-GAMI), A., 911.

series spectrum of (Bowen), A., 285.

emission of H-particles from, bombarded with a-particles (STETTER), A., 494.

ionisation potentials of (MILLIKAN and BOWEN), A., 912. electro-deposition of (N.V. PHILIPS' GLOEILAMPENFABR.), (P.),

B., 252. Boron compounds, occurrence of, in cacao and cacao products (Dodd), B., 762.

constitution of (STOCK; MÜLLER), A., 714.

insoluble, mining of (BLUMENBERG), (P.), B., 749. rôle of, in growth of plants (BRENCHLEY and WARINGTON), A., Boron trichloride, density of (BRISCOE, ROBINSON, and SMITH). .

surface tension of (MILLS and ROBINSON), A., 927.

hydrides, constitution of (Sмітн), A., 813.

constitution of, and their compounds with nitrogen (ULMANN; CHRISTIANSEN), A., 399.

nitride, crystallography of (JAEGER and WESTENBRINK), A., 297. monoxide, band spectrum of (Jenkins), A., 916.

trioxide, equilibria of, with water and phosphorus and sulphur trioxides (Levi and Gilbert), A., 1030.

Boric acid, and its alkali salts (MENZEL), A., 937; (MENZEL and MECKWITZ), A., 1043.

manufacture of (Blumenberg and Stockholders' Syndic-ATE), (P.), B., 814.

rotatory dispersion of solutions of tartaric acid and (DES-CAMPS), A., 307, 409.

hydrogen-ion concentration of mixtures of sodium hydroxide and (Kolthoff and Bosch), A., 516.

determination of, in silicates (SCHMIDT), B., 189.

Borates, preparation of (Andrieux), A., 216.

action of fluorine on (FIGHTER and BLADERGROEN), A., 741. Boron organic compounds, asymmetric, resolution of (BÖESE-KEN, MULLER, and JAPHONGJOUV), A., 132.

Boron trifluoride-acetic acid (MEERWEIN), A., 837.

Boron detection :-

detection of, spectrophotometrically (Holmes), B., 936. Boydenite, location of the carbon atom in (SCHWATZ), B., 680. Brain, chemistry of (SINGER), A., 371; (STUCKERT), A., 1104.

action of narcosis on the chemical composition of (SEREJSKI), A., 376.

cerebrosides of (Klenk), A., 691. cholesterol of (GASSNER), A., 371.

distribution of veronal and barbituric acids in (E. and J. Keeser), A., 1110.

metabolism of. See under Metabolism.

horse, nitrogen distribution in (SINGER), A., 371.

Brambles, chemical composition and hardness in (LOTT), A., 1225. Brandy, vanillin in (REIF), B., 953.

detection of adulteration of (GRAFF), B., 953. Brass, fifteenth-century (FRIEND and THORNEYCROFT), B., 279. viscosity of, at high temperatures (Cournor and Pages), B., 112. influence of time and temperature on mechanical fracture of large crystals of (SAUERWALD and ELSNER), A., 1017. acid dipping of (GRAHAM), B., 389.

influence of concentration of nitric acid on yellowing of (DORN), В., 656.

production of stains and gold tones on (STAHLSCHMIDT), (P.),

hot-shortness of (MAILÄNDER), B., 255.

elastic hysteresis of (Jannin), B., 167. gases evolved from (Guillet and Roux), B., 336.

penetration of, by tin and solder (MILLER), B., 279.

recovery of copper from (STEUDER), B., 223.

scrap and residues, refining of (Lewin), (P.), B., 370*. cold-rolled, tension and compression of (MASING and MAURSCH),

B., 112. red, structure and properties of (KÜHNEL; HANSEL), B., 78. analysis of (v. Boodándy and Polányi), B., 413; (Polányi

and v. Boodandy), (P.), B., 784. $a+\beta$ -Brass, heat-treatment and structure of (HINZMANN), B., 752.

Brass condenser tubes, prevention of corrosion of (Weston, Conkle, and Clay), (P.), B., 16.

Brass rods and tubes, detection of internal stress in (SACHS), B., 845. Brass wire, critical temperatures in annealing of (OSTERMANN), B.,

Brassica, proteins of (DAVIES), B., 232.

Brassica nigra (black mustard), enzymes of (Astruc and Mous-SERON), A., 386.

essence of (LASAUSSE), B., 667, 712.

Brassica rapus, colouring matter from (KYLIN), A., 669. Brassidic acid, phenyl ester (Skraup and Beng), A., 560.

isoBrazilein ferrichloride trimethyl ether, synthesis of (PERKIN, Rây, and Robinson), A., 1084.

Brazilin, constitution of (PFEIFFER and OBERLIN), A., 1198. and its derivatives, synthesis of (PERKIN, RAY, and ROBINSON),

Bread, making of (TAKAMINE, TAKAMINE, jun., and FUJITA), (P.), B., 26; (MATTI; KOHMAN), (P.), B., 376; (ROSENBAUM), (P.), B., 503; (STEIN; BLOCK and STEIN), (P.), B., 732; (HILL, TINTNER, and NORTHWESTERN YEAST Co.), (P.), B., 857.

Bread, making of, factors in (HARREL), B., 201. stages in (Deutson-Renner), (P.), B., 202. use of oils and fats in (Bennion), B., 90. manufacture of yeast stimulant for (TAKAMINE and FUJITA), (P.), B., 616*. rôle of phosphates in (BARACKMAN and BAILEY), B., 889. quality of, from wheat supplied with nitrogen (Gericke), B., alcohol in (SIMPSON and KNIGHT), B., 590. interpretation of baking tests for (HAAS), B., 889. electric furnace for baking of (ETABL. SABLYET), (P.), B., 858. leavened, production of (WAGNER and GLABAU), B., 154. determination of lactose in (SNETHLAGE), B., 122. Brettanomyces Bruxellensis and lambicus, in lambic fermentation (VAN LAER), B., 953. Brewing, science in (WINDISCH), B., 424. importance of hydrogen-ion concentration in (Lüers), B., 423; (HAGUES), B., 589. fermentation control in (HARMAN and OLIVER), B., 24. with new varieties of hops (Lones and Grant), B., 152. use of aluminium vessels in (v. Schwarz), B., 424. pans for (Schaefer), (P.), B., 455. determination of amylase in mash in (Wendel), B., 152. Brewing water. See Water, brewing.

Bricks, manufacture of (MAYNARD; MULLIGAN), (P.), B., 110; (THOMPSON), (P.), B., 816; (THLBERG and HELLSTRÖM), (P.), B., 909. from dolomite (DUFFIELD), (P.), B., 909. preservation of (Anderson), (P.), B., 525. evaporation of water and salt solutions from (LAURIE and MILNE), B., 443. spalling of (Preston), B., 410. fireclay, effect of steam on transverse strength of (PARMELEE and Westman), B., 702. paving. See Paving bricks. refractory (SCHAEFER), (P.), B., 815. manufacture of (Scheidhauer & Giessing), (P.), B., 254. unburnt, manufacture of (MARKS and U.S. REFINING Co.), (P.), B., 189. magnesite (SCHLOTTERER, YOUNGMAN, and HARBISON-

Walker Refractories Co.), (P.), B., 908.

silica, manufacture of (POND and JOHNS-MANVILLE INC.), (P.), B., 109.

influence of iron oxide and sulphides on quartz conversion in (Hucill and Rees), B., 442.

properties of (VICKERS and GREEN), B., 442.

effect of mixture of oxides on (ENDELL and HARR), B., 108. microscopy of (Hibsch), B., 580.

Brickwork, chequer, use of super-refractories as, in oil-gas manufacture (KNOLLMAN), B., 702.

Brine, treatment of (SMITH, PRUTTON, and Dow CHEMICAL Co.), (P.), B., 628.

Brine lake, extraction of albumin from (GRÄFF & Co.), (P.), B., 345.

Briquettes, manufacture of (MARSHALL), (P.), B., 244; (WALTON), (P.), B., 515.

from lignite (McCrea), (P.), B., 132. binder for (Tapping), (P.), B., 402.

binder for, from alcohol residues (Moone and Myers), B., 513. drying apparatus for (Crossman), (P.), B., 693.

coke, with inorganic binding agents (WEBER), (P.), B., 466. fuel (PLOCHMANN), (P.), B., 66.

manufacture of (TORMIN), (P.), B., 162.

carbonisation of (Zwoyer and General Fuel Briquette Corp.), (P.), B., 549*.

water-resistant (Maschinenbau Breitfeld, Daněk & Co., and Plochmann), (P.), B., 577.

wood charcoal (DE PANIAGUA), (P.), B., 769.

Briquetting (ZWOYER and GENERAL FUEL BRIQUETTE CORP.), (P.), B., 290.

Briquetting materials, production of (PRUIJS and SCHRADER), (P.), B., 66.

Brochantite, crystallography of (Schoep), A., 611.

Bromanil, manufacture of (HOLLIDAY & Co. and SHAW), (P.), B., 742.

Bromine, occurrence of, in meteorites (v. Fellenberg), A., 955. fluorescence of (L. and E. BLOCH), A., 396. absorption spectrum of, in solution (Bovis), A., 810. are and spark spectra of (L. and E. Bloch), A., 802. spark spectrum of (L. and E. Bloch), A., 178.

Bromine, displacement of lines in spectrum of (ASAGOE), A., 602. electrochemistry of mixtures of ethers with (Bruns), A., 832. dielectric constant of (Bramley), A., 293.

vapour pressure and density of (TRAUTZ and TRIEBEL), A., 615. composition of vapour in equilibrium of water and (RHODES and Bascom), A., 730.

thermal dissociation of (DE VRIES and RODEBUSH), A., 415. as a solvent, and its compound with benzamide (FINKELSTEIN),

recovery of, from brine (Dow, Barstow, and Dow CHEMICAL Co.), (P.), B., 252.

interaction of acetic anhydride with (ORTON, WATSON, and HUGHES), A., 1168.

use of, in determination of isomeric unsaturated acids (LINSTEAD), A., 445.

Bromine monochloride (Forbes and Fuoss), A., 209.

Bromine acids, detection of, in presence of chlorine and iodine acids (Chamor and Mason), A., 744.

Hydrobromic acid, mechanism of formation of, from its elements (SKRABAL), A., 188. decomposition of, in the electric discharge (Canfield and

HAYES), A., 515. electrolytic dissociation of, in methyl alcohol (Hlasko and

Kamienski), A., 625.

equilibrium of barium bromide, radium bromide, water, and (CHLOPIN and NIKITIN), A., 1133.

molecular compounds and molecular volumes of mixtures of ether and (RUSSELL and SULLIVAN), A., 507.

action of, on carbohydrates (Colin and Ruppol), A., 1173. Bromides, manufacture of (CHEMNITIOS), B., 813.

detection of, alone and in presence of iodides (v. Mikó), A., 744.

determination of, in presence of chlorides and iodides (Bero), A., 124.

separation and determination of mixtures of chlorides, iodides, and (CHICK), B., 651.

Bromates, determination of, in presence of chlorates (Fighter and Tschudin), A., 330.

Bromine determination:

determination of, by modified combustion method (SMITH), A., 551.

determination of, in urine, in presence of chlorine (OTTENsooser), A., 586.

Bromine ions, hydratation of (BABOROVSKÝ and VELÍŠEK),

Bronze, effect of pressing and forging on (Schleicher), B., 112. viscosity of, at high temperatures (Cournor and Pages), B., 112.

behaviour of, in cellulose bleach liquors (Heike and Westerнолт), В., 656.

scrap and residues, refining of (Lewin), (P.), B., 370*.

acid-resisting, for sulphite-cellulose works (RAUCHBERG), B., 656. determination of copper in (Hammond), B., 301.

Broom. See Sarothamnus scoparius.

Brownian movement, effect of light on (Pospíšil), A., 823.

Brucidine, and its salts and derivatives (Gulland, Perkin, and Robinson), A., 889.
Brucidone, and its semicarbazone (Gulland, Perkin, and

ROBINSON), A., 890.

Brucine (CLEMO, PERKIN, and ROBINSON), A., 888; (GULLAND, PERKIN, and ROBINSON), A., 889; (OXFORD, PERKIN, and Robinson), A., 1208.

manufacture of, from Nux vomica (Watson and Sen), B., 427. fluoborate, fluorosulphonate, and persulphate (WILKE-DÖRFURT and Balz), A., 238.

fluorosulphonate (LANGE), A., 532.

methohydrogencarbonate (Gulland, Perkin, and Robinson), A., 889.

a- and β-Bryons, and their derivatives (Zellner, Falkowsky, Spitzer, and Taschner), A., 598.

Bryonia dioica, constituents of (Zellner, Falkowsky, Spitzer, and Taschner), A., 598.

Buds, sprouting of (DENNY and BOYCE THOMPSON INST. FOR PLANT RESEARCH), (P.), B., 499. Buffer action, theory of (COHN), A., 206.

Buffer solutions (KOLTHOFF and VLEESCHHOUWER), A., 221, 626; (Moser), A., 516. properties of (Taufel and Wagner), A., 20, 35.

action of (KLINKE), A., 1029.

Buffer solutions, hydrogen-ion concentration in (Kolthoff and TEKELENBURG), A., 329.

relation of temperature to (OLSEN), A., 1028.

for alkalis (Kolthoff and Vleeschhouwer), A., 1159. Buffering capacity in plant juices (LEUTHARDT), A., 937.

in biochemistry (Moser), A., 937.

Building materials (Soc. Anon. CIMENTI), (P.), B., 333. manufacture of (BARKER and ORN), (P.), B., 110.

influence of humidity on composition of (McBain and Ferguson), B., 366.

production of a cold glaze upon (FRIEDRICH), (P.), B., 751*. production of coloured effects in (WHITE), (P.), B., 878.

containing rubber (LEFEBURE), (P.), B., 166.

for walls, floors, etc. (SHELLARD), (P.), B., 412. composite, manufacture of (ARNESEN and BECH), (P.), B., 843.

fibrous, manufacture of (LUNDGREN), (P.), B., 878. fire-resistant (Stradling and Brady), B., 780. Burettes, device for reading (Ishimaru), A., 743.

modified pinch-cock for (Mosends), A., 439.

regulator for pinch-cocks of (Wikul), A., 224.

for micro-titration, and its calibration (Schilov and Ossen-NOVA; Schilov), A., 221.

for measurement of gas volumes (WEAVER and SHEPHERD), A., 1163.

weight (SMITH), A., 128.

Burette consistometer, calibration of (HERSCHEL and BULKLEY),

Burgundy precipitate, solubility of, in ammonia, ammonium carbonate, and bicarbonate (HOLLAND and GILLIGAN), B., 479. Burners for fuel (INTERNAT. COMBUSTION, LTD. and ROSENCRANTS), (P.), B., 246.

for gaseous or powdered fuel (TROUP), (P.), B., 182. for liquid or gaseous fuel (DAVIES), (P.), B., 549.

n-Butaldehyde, a-bromo- (KIRRMANN), A., 340.

Butaldehyde-ammonia, influence of, in vulcanisation of rubber (HALLAS and DRAKELEY), B., 419.

n-Butane, density of (VAN BOGAERT), A., 719.

n- and iso-Butanes, ac-chloronitroso- (RHEINBOLDT and DEWALD), A., 229.

Butane, aa-dibromo- (Kirrmann), A., 442.

 $a\delta$ -dibromo-, action of p-toluenesulphonamide on (Müller and SAUERWALD), A., 884.

l-a-bromo- β -hydroxy- (Levene and Haller), A., 1053. β β -chloronitro-, and $\beta\beta$ -chloronitroso- (Rheinboldt and

DEWALD), A., 852. isoButane, trifluoro-mono- and -di-bromo- (SWARTS), A., 442.

Butanes, thermal properties of (Dana), A., 1131.

Butanes, β-nitro-, and their sodium salts (KUHN and ALBRECHT),

A., 749. d-Butane-αγ-diol diphenylcarbamate (Levene, Walti, and HALLER), A., 337.

Butane-αβ-diols, and their diphonylearbamates (Levene and

Haller), A., 1053. d- and l-Butan-β-ols, and their phenylcarbamates (Levene, WALTI, and HALLER), A., 337.

d-Butan-γ-ol, a-bromo-, and a-iodo- (Levene, Walti, and

Haller), A., 337. Butan-y-ols, configurational relationship of, to pentan-δ-ols (LEVENE, HALLER, and WALTI), A., 643.

4β-Butene-αδ-dicarboxylic acid, βγ-dihydroxy- (Schmalfuss and BARTHMEYER), A., 42.

Δγ-Butenylbenzene, p-bromo- (QUELET), A., 452.

4-n-Butoxyanisole, and nitro- (CLARKE, ROBINSON, and SMITH),

n-Butoxynaphthaquinones (FIESER), A., 59.

β-tert.-Butoxyphenylpropionic acid, α-chloro- (Jackson and Pasiut), A., 969.

γ-n-Butoxypropan-β-ol, a-chloro- (Fourneau and Ribas), A., 131. β-Butoxyisovaleric acid (Hoffman), A., 338.

Butter, manufacture of (Karpinsky and Anderson), (P.), B., 858*.

fat, manufacture of products of (SPAETH and MATTHEWS SELECTED DAIRIES Co.), (P.), B., 92.

vitamin-E in (Sure), A., 905.

addition of bromine to (SCHNECK), B., 850. saponification of, for determination of Reichert-Meissl value (Spetzer and Epple), B., 882

annatto extract for colouring of (RAO), B., 954. caramel odour in, due to Streptococcus lactis (SADLER), B., Butter, sorting of samples of (MANLEY), B., 226.

abnormal (Schellbach), B., 614.

illipé, detection of (KNAPP, Moss, and Melley), B., 762. determination of, in chocolate (BYWATERS, MAGOS, and

Pool), B., 614. shea (De Belsunge), B., 495.

detection of (KNAPP, Moss, and MELLEY), B., 762.

synthetic, proteolytic action of organisms in (Spitzer, Parfitt. and EPPLE), A., 593.

bromine-iodine values of (VAUBEL), B., 455.

xylene numbers of (VAN RAALTE), B., 153.

critical solution temperature in analysis of (WAUTERS), B., 425. Manley and Reichert figures in analysis of (Shrewsbury), B.,

determination of fat of (v. Morgenstern), B., 145; (Elsdon and SMITH), B., 608.

determination of fat of, in margarine (Elsdon and Smith), B., 227.

Buttermaking, improvement of cream for (ARMITAGE), (P.), B., 26; (Cooney and Campbell-Cooney Patents Co.), (P.), B., 376, 377*.

use of lime in (OVERMAN), B., 502.

Buttermilk, improvement of body of (KNAYSI), B., 712.

n-Butyl alcohol from Jerusalem artichokes (Thaysen and Green).

manufacture of, by fermentation (COMMERCIAL SOLVENTS CORP. and Legg), (P.), B., 538*.

isoButyl alcohol, conductivity and esterification measurements in (GOLDSCHMIDT, LUND, THUESEN, MATHIESEN, and THOMAS),

tert.-Butyl alcohol, trifluoro- (SWARTS), A., 442.

n- and iso-Butyl diacetone ethers, and their semicarbazones (Hoffman), A., 338.

isoButyl heptyl ether (Sigmund and Marchant), A., 1054.

tert.-Butyl hypochlorite, addition of, to cinnamic acid (Jackson and PASIUT), A., 969.

cycloButylacetic acid (ZELINSKI and KASANSKI), A., 458.

5-n-Butyl-5-allylbarbituric acid (Volwiller and Abbott Labor-ATORIES), (P.), B., 797.

5-sec.-Butyl-5-allylbarbituric acid, value of, as a sedative (Dox and Parke, Davis & Co.), (P.), B., 317.

sec.-Butylallylmalonic acid, ethyl ester (Boedecker), (P.), B., \$60.

1-n- and iso-Butylaminobenzthiazoles, and their dibromides (HUNTER), A., 263. n-Butylaminoisohexoethylamide, and its salts (v. Braun and

Münch), A., 345. 2-n- and iso-Butylamino- β -naphthathiazoles, and their bromides

(Dyson, Hunter, and Soyka), A., 263. a-n-Butylaminopropionisoamylamide, and its hydrochloride

(v. Braun and Münch), A., 345. n-Butylaniline, benzylation of (Reilly and Drumm), A., 553.

5-isoButylbarbituric acid (RIEDEL), (P.), B., 237.

5-isoButyl-5β-bromo-Δ-propenylbarbituric acid (RIEDEL), (P.),

Butylcbloral hydrate, stabilisation of molecular compounds of pyramidone and (CHEM.-PHARM. BAD HOMBURG), (P.), B., 573. isoButyl-42:6-dihydrophthalide (BERLINGOZZI, MENNONNA, and PALMA), A., 560.

AB-Butylene (Coffin and Maass), A., 851.

action of silent discharge in (DEMJANOV and PRIANISHNIKOV).

additive compound of nitrogen trichloride and (COLEMAN, OWEN, and RODRIGUEZ), A., 538.

Δβ-Butylene, γγγ-trifluoro- (Swarts), A., 442.

Butylene bromides, condensation of, with aniline (Lewis and FORDYCE), A., 454.

trans-Δβ-Butylene glycol, and the corresponding dibromohydrin (Prévost), A., 131.

cycloButyl ethyl ketone, and its semicarbazone (Zelinski and Kasanski), A., 648.

isoButylguanidine, nitro- (DAVIS and LUCE), A., 1059. y-Butylheptane, β-amino-, and its chloroplatinate (BILLON). A., 879.

a-Butylhexonitrile (GRIGNARD and ONO), A., 130.

isoButylidenecyclohexylamine (SKITA and WULFF), A., 559. n-Butylidenephthalide (BERLINGOZZI and LUPO), A., 561.

isoButylphosphinic acid bromide (MILOBEDZKI and KRAKOVIECKI), A., 865

isoButylphthalide (BERLINGOZZI and CIONE), A., 560.

5-isoButyl-5-Af-propenylbarbituric acid (RIEDEL), (P.), B., 237. 1-n-Butylpyrrole picrate (REICHSTEIN), A., 573.

1-n-Butylpyrrolidine (Britton and Dow Chemical Co.), (P.),

B., 268.

n-Butyl-∆6-tetrahydrophthalide (Berlingozzi and Lupo), A., 561. isoButyl-46-tetrahydrophthalide (BERLINGOZZI and CIONE), A., 560.

5-Butyl-\psi-thiohydantoin (Nicolet and Bate), A., 977.

a-isoButylvalerolactone (DARZENS), A., 40.

sec.-Butylisovalerylacetic acid, ethyl ester (Jones), A., 43.

n-Butylxanthanoic acid, and its methyl ester (Conant and Garvey), A., 1177.

Butyn borate (POPE), (P.), B., 29.

Butyramide, thiol- (KINDLER, TREU, and FÜRST), A., 339.

isoButyrethylamide, and a-bromo-, and a-chloro- (v. Braun, Jostes, and Heymons), A., 231.

isoButyrethylimide chloride, a-chloro- (v. Braun, Jostes, and HEYMONS), A., 232.

Butyric acid, preparation of (Young and Carbide & Carbon CHEMICALS CORP.), (P.), B., 28.

manufacture of (LE Franc and LEFRANC & CIE), (P.), B., 375*. ethyl ester, derivatives of (SKITA and WULFF), A., 559.

linally esters, in lavender oil (KAUFMANN and KJELSBERG), B., 923.

triphenylpropargylester (Moureu, Dufraisse, and Houghton), A., 355.

Butyric acid, β -amino-, acetyl derivative, and its ethyl ester (SKITA and WULFF), A., 559.

ay-dibromo-a-cyano-, ethyl ester (NICOLET and SATTLER), A., 1068.

aa-dichloro-, and its derivatives (v. Braun, Jostes, and Münch), A., 548.

γγγ-trifluoro-β-imino-, derivatives of (Swarts), A., 646.

d-a-hydroxy-, barium salt and ethyl ester, and its configurational relationship to d-lactic acid (Levene and Haller), A., 1053.

β-hydroxy-, preparation of, and its butyl ester (WACKER GES. FÜR ELEKTROCHEM. IND., BASEL, and KAUFLER), (P.), B., 924.

products of dehydration and polymerisation of (Lemoigne), A., 700.

decomposition of, in the liver (SNAPPER and GRÜNBAUM),

A., 374. l-n-Butyric acid, a-thiol-, and its salts (Levene, Mori, and Mikeska), A., 1171.

isoButyric acid, esters of (v. Auwers, Baum, and Lorenz),

Butyric acids, d- and l- γ -amino- β -hydroxy-, and their benzoyl derivatives (TOMITA and SENDJU), A., 1058.

 $a\beta$ -dihydroxy-, and their salts and derivatives (GLATTFELD and Woodruff), A., 1054.

n-Butyrmethylanilide, β-chloro- (Mayer, van Zütphen, and PHILIPPS), A., 574.

-Butyrobetaine, identity of actinine with (Ackermann), A., 987. Butyrone diethylsulphone, physiological action of (Récsei), A., 1110.

n-Butyronitrile, γ-chloro-a-hydroxy-, and its derivatives (CRAW-FORD and KENYON), A., 343.

isoButyronitrile, a-bromo- (CHRZASZCZEWSKA and POPIEL), A., 652.

y-Butyrotrimethylbetaine, salts and ethyl ester of (CRAWFORD and KENYON), A., 344.

isoButyrphenylimide, a-chloro-, chloride (v. Braun, Jostes, and MÜNCH), A., 548.

n-Butyryl chloride, β -chloro-, derivatives of (Mayer, van ZÜTPHEN, and PHILIPPS), A., 574.

isoButyryl-dl-a-aminobutyric acid, amino-, and its derivatives (ABDERHALDEN and Rossner), A., 576.

isoButyrylazotriphenylmethane (WIELAND, HINTERMAIER, DENN-STEDT, and LORENZO), A., 237.

Butyrylcarbamide, a-bromo- (PHILLIPS), A., 132.

iso-Butyryl-o-cresols, and their derivatives (v. Auwers, Baum, and LORENZ), A., 670.

isoButyrylglycine, a-amino-, benzoyl derivative, ethyl ester of (GRÄNACHER and MAHLER), A., 468. (WIELAND, HINTERMAIER, isoButyrylhydrazotriphenylmethane

DENNSTEDT, and LORENZO), A., 237. isoButyryl-l-leucine, dl-a-amino-, and its anhydride, and a-bromo-

(ABDERHALDEN and Rossner), A., 576. iso Butyrylmethylamide, a-amino-, benzoyl derivative (GRÄNACHER

and Mahler), A., 468.

n-Butyryloxybenzoic acid, a-bromo- (KAUFMANN), A., 663.

2-isoButyrylphenol, 4-chloro-, and 4-chloro-a-hydroxy-, and their derivatives (v. Auwers, Baum, and Lorenz), A., 670.

5-n-Butyryl-2-n-propylpyridine, and its oxime (Benary), A., 573. 5-isoButyryl-as-m-xylenol, and its acetyl derivative (v. Auwers, BAUM, and LORENZ), A., 670.

Cabbage, variations in chemical composition of (Peterson, Fred, and VILJOEN), B., 890.

ether-soluble constituents of (CHIBNALL and CHANNON), A., 386; (Channon and Chibnall), A., 1227.

fatty acids of cytoplasm of leaves of (CHIBNALL and CHANNON), A., 799.

water-soluble content of calcium and phosphorus in (W. H. and C. B. Peterson), A., 385.

skunk. See Lysichiton camtshatcene.

Cables, coating of (GIRARD and ROUMAZEILLES), (P.), B., 727. Cacao, occurrence of boron compounds in (Dodd), B., 762.

beans and products (FINCKE), B., 154.

butter, substitutes for, and their detection (KNAPP, Moss, and MELLEY), B., 762.

products, occurrence of boron compounds in (Dodd), B., 762. determination of milk proteins in (WATERMAN and LEPPER), B., 425.

shell, determination of, by sedimentation (GROSSFELD), B., 154. determination of husk in (GRIEBEL and MIERMEISTER; GROSS-FELD), B., 569.

Cacodyl oxide, oxidation of (VALEUR and GAILLIOT), A., 865. Cacodylic acid, preparation of, from trimethylarsine (VALEUR and GALLIOT), A., 756, 1176.

Cadavers, decomposed, detection of poisons and drugs in (BRÜNING and Kraft), B., 427.

Cadet's oil, and its distillation products (VALEUR and GAILLIOT), A., 1176.

Cadinene (Henderson and Robertson), A., 250. l-Cadinol (Henderson and Robertson), A., 250.

Cadmium, absorption spectrum of (MOHLER and MOORE), A., 917. instantaneous spectrum of (NAGAOKA, NUKIYAMA, and FUTAgami), A., 911.

ultra-violet spectrum of (Mohammad and Mathur), A., 803; (SCHRAMMEN), A., 998.

fluorescence of (Kapuściński), A., 292, 712.

anomalous dispersion in non-luminous vapours of (KUHN), A., 295.

polarisation of resonance radiation in (MACNAIR), A., 602; (Soleillet), A., 803.

potential of, in solutions of its salts (Brester), A., 734. purification of (Howard and Grasselli Chemical Co.), (P.),

B., 847. electrolytic deposition of (Grasselli Chemical Co.), (P.), B.,

415. for protection of metals and alloys against corrosion (Cournor

and BARY), B., 910. electroplating with (UDYLITE PROCESS Co., YOUNG, and LOUTH),

(P.), B., 338. as a plating-metal for utensils (Gronover and Wohnlich), B.,

molten, surface tension of (BIRCUMSHAW), A., 719.

equilibrium between tin and, and their chlorides (LORENZ), A., 518.

Cadmium alloys with bismuth, lead, and zinc, electrolysis of (Kremann and Tröster), A., 25.

with copper and zinc, constitution and properties of (JENKINS), B., 817.

with lead (Friedrich and Gen. Electric Co.), (P.), B., 881*. with magnesium, equilibria of (HUME-ROTHERY and ROWELL), B., 817.

with tin (FEDOROV), A., 517.

Cadmium bases (cadmiumammines):-

Cadmiumhexammine fluoborate (WILKE-DÖRFURT and BALZ), A., 120.

Cadmium salts, inactivation of enzymes of yeast by (Kostytschev and Medvedev), A., 379.

detection of, microchemically (MARTINI), A., 953. Cadmium chloride, complex of potassium chloride and (Bourton

and ROUYER), A., 841.

Cadmium halides, conductivity and transport numbers of, in acetamide (BELLADEN), A., 831.

compounds of alkali halides with (Bourson and Rouyer),

A., 415.

iodide, molecular conductivity of, in acetonitrile (Koch), A., 420. influence of iodine on conductivity of, in alcoholic and acetone solutions (Thönnessen), A., 420.

sclenide, crystal structure of (Zachariasen), A., 400. sulphides, preparation and analysis of (HULOT), A., 431. telluride, crystal structure of (ZACHARIASEN), A., 96.

Cadmium detection, determination, and separation :-

detection of, with mercurithiocyanates (Montequi), A., 436. determination and separation of, by means of organic bases (Berg and Wurm), A., 847.

determination and separation of, with 8-hydroxyquinoline

(Berg), A., 847.

Cadmium pigments. See under Pigments.

Cæsium, preparation of (DE BOER, CLAUSING, and ZEOHER), A.,

intensity in spectrum of (FILIPPOV), A., 490.

blue doublet in spectrum of (HAGENOW and HUGHES), A., 999. spectrum of luminescence of (BALASSE and GOCHE), A., 187. continuous spectrum of (Balasse), A., 490.

flash are spectrum of (Newman), A., 390. series spectrum of (Shrum, Carter, and Fowler), A., 178. spark spectrum of (FILIPPOV and GROSS), A., 390; (BALASSE), A., 911.

in electric discharge tubes (N.V. Philips' Gloeilampenfabr.), (P.), B., 226.

vapour, ionisation of, by ultra-violet light (LITTLE), A., 914. luminescence of, in the electric discharge (Balasse and GOCHE), A., 609.

reaction of, with carbon (FREDENHAGEN and CADENBACH), A.,

Cessium salts, reactions of, with calcium ferrocyanide (DEL FRESNO and VAZQUEZ), A., 430.

Cesium azidodithiocarbonate (Browne, Audrieth, and Mason), A., 430.

chloride, preparation of (Kastler), B., 439.

mercurio chloride, crystal structure of (NATTA), A., 1128. fluogermanate, crystal structure of (WYCKOFF and MÜLLER), A., 503.

fluorosulphonate (LANGE), A., 532.

halides, adsorption of, by charcoal (SCHILOV and TSCHEPELEvetski), A., 929.

hexabromostannato (Costeanu), A., 741.

Cæsium organic compounds :-Cæsium eosinate, properties of (Delaplace and Marinesco), A., 92.

triphenylmethyl (v. GROSSE), A., 46.

Cæsium separation :-

separation of, from potassium and rubidium (Moser and RITSCHEL), A., 222.

Caffeine, action of, on micro-organisms (ZANDA), A., 1220. hydrate, compound of chloral hydrate and (OLIVERI-MANDALA), A., 303.

determination of (Gobert; Stüber), B., 153. determination of, in coffee (RÖTTINGER), B., 731.

determination of, in de-caffeinised coffee (Bonifazi), B., 314. Cajuput oil, determination of cincole in (ESSENTIAL OIL SUB-COMMITTEE), B., 506.

Cakes, manufacture of (STEIN; BLOCK and STEIN), (P.), B., 732. with ultra-violet light (ELIAS), (P.), B., 314.

Calamintha nepeta, essential oil of (Romeo and Giuffrè), B., 316.

Calcification (MAYNARD and MILLER), A., 373. effect of increased calcium salts on (Remesov), A., 900.

Calcite, optical anomalies of (NISHIO), A., 188. refraction and dispersion of Röntgen rays in (Larsson), A., 298. apparent double refraction of (PHILIBERT), A., 10, 99. effect of X-rays on thermoluminescence of (WICK), A., 397.

crystal structure of (TSUBOI), A., 400. Calcium, and its alloys, refining of (AMERICAN MAGNESIUM CORP.),

(P.), B., 490. spectrum of (Lang), A., 490; (Kichlu and Saha), A., 802. Röntgen-ray absorption spectrum of (AOYAMA, KIMURA, and NISHINA), A., 999.

duration of light-emission for (Kerschbaum), A., 707.

potential of (LATIMER), A., 941. isotopes of (PLYLER), A., 1120.

lattice energy and escape of electrons from (Weigle), A., 84.

Calcium, diffusible and non-diffusible, in serum (Liu), A., 985, interstellar (STRUVE), A., 915.

Calcium alloys with aluminium and silicon (GROGAN), B., 281. Calcium compounds, lattice constants of (OFTEDAL), A., 923.

Calcium salts, solubility of (HASTINGS, MURRAY, and SENDROY;

SENDROY and HASTINGS), A., 416. precipitation of, by microbes (NAESLUND), A., 701.

assimilation of, and diet (HART, STEENBOCK, KLETZIAN, and SCOTT), A., 275; (HART, STEENBOCK, SCOTT, and HUM-PHREY), A., 275, 695. distribution of, in blood-serum (Updegraff, Greenberg, and

CLARK), A., 167.

absorption of, in relation to gastric acidity (WILLS, SANDERSON, and Paterson), A., 896.

influence of, on nitrogen excretion (PINCUSSEN and COELHO), A., 276.

variation of, in jaundice (CANTAROW, DODEK, and GORDON),

injected, fixation of, by tissues (Condorelli), A., 989.

Calcium arsenate, manufacture of (Altwegg and Soc. Chim. Usines du Rhône), (P.), B., 108*; (Taylor and Grasselli Chemical Co.), (P.), B., 140; (Moore and Brown Co.), (P.), B., 299.

carbide, efficiency of electric furnace production of (Schlumberger), B., 217.

prevention of explosions in chambers used for grinding (GRÄFLICH SCHAFFGOTSCH'SCHE WERKE), (P.), B., 723. carbonate, precipitated, manufacture of (Wood and Ivanpan Lime & Chemical Co.), (P.), B., 965.

dissociation pressure of (DUTOIT), A., 416. activation of reactions between acids and (ISGARISCHEV and SCHAPIRO), A., 945.

fusion of diabase with (GINSBERG and NIKOGOSIAN), A., 335. hexahydrate, density of (Hume and Topley), A., 12.

rate of decomposition of (Hume and Topley), A., 526. carbonate and phosphate, colloidal mixed solutions of (STELLA), A., 1024.

production of nutritive mixtures of (MÜNSTER and THOR-MANN), (P.), B., 330.

solubility of, in physiological fluids (HASTINGS, MURRAY, and SENDROY; SENDROY and HASTINGS), A., 416.

chloride, ultra-violet absorption spectrum of solutions of (VITERBI), A., 1122. vapour pressure and heat of dilution of solutions of (HARRI-

son and Perman), A., 207.

density and conductivity of solutions of (Crowe), A., 831. chromates (NARGUND and WATSON), A., 326.

ferrates, heat of formation of (YASUIRKIN), A., 629.

fluoride, reflexion of Röntgen rays by (HAVIGHURST), A., 95.

band spectrum of (GOUDSMIT), A., 917. electron distribution in crystals of (HAVIGHURST), A., 191.

equilibrium of hydrochloric acid with (Aumeras), A., 1141. halides, double salts of calcium lactate with (COLMAN), (P.), B., 317.

hydride, band spectrum of (HULTHÈN), A., 185.

hydroxide, preparation and optical properties of crystals of (Aston and Wilson), A., 402.

crystal structure of (Rejna), A., 1128. rhythmic precipitation of (Fischer and Schmidt), A., 199. hypochlorite, instability and explosiveness of (KAST and METZ), B., 297.

danger of explosion in manufacture of, from liquid chlorine (Schönberg), B., 875.

technical, composition of, and comparison of its behaviour on heating with that of bleaching powder (DITZ and MAY), B., 748.

hypochlorites, normal and basic, manufacture of (URANO and Íмаі), (Р.), В., 299.

iodide, dispergation of cellulose in solutions of (v. WEIMARN and Hori), A., 824.

nitrate, equilibrium of water and (EWING, KREY, LAW, and Lang; Ewing), A., 938.

granulated dust-free (Norsk Hydro-Elektrisk Kyaelstofакт.), (Р.), В., 482.

analysis of (McCandless and Burton), B., 637. oxide (lime), manufacture of (GIROUARD), (P.), B., 45.

commercial, composition of (Rogers), B., 847. plasticity of (Briscoe and Mathers), A., 190; (Farnsworth), B., 476.

apparatus for mixing (LEOPOLD), (P.), B., 142.

Calcium oxide (lime), quick-setting mixtures of (Holmes, Fink, and NAT. LIME ASSOC.; STOCKETT and NAT. LIME ASSOC.; MATHERS, HARDY, and NAT. LIME ASSOC.), (P.), B., 45; (MATHERS, SHIRLEY, and NAT. LIME ASSOC.), (P.), B., 110. equilibria of alumina, silica, and (HANSEN, DYCKERHOFF, ASHTON, and BOGUE), A., 519. burning of (STEHMANN), (P.), B., 190; (HEYL), (P.), B., 412*. in kilns (TRUESDELL and DOHERTY RESEARCH Co.), (P.), B., 444. hydrated, production of (CARSON), (P.), B., 166; (HUNTER and Nichols), (P.), B., 777; (DITTLINGER and DITTLINGER Crow Process Co.), (P.), B., 877. effect of particle size on hydration of (ADAMS), B., 476. hydrator for (MISCAMPBELL), (P.), B., 108*. variables affecting, used in causticising (DORR and BULL), B., action of, on beryllia (Matignon and Marchal), A., 1155. compound of sugar and (STEFFEN), (P.), B., 264. action of, on soils (HISSINK), B., 87, 88. requirements of soils for (BRIOUX and PIEN), B., 171. silicates as source of, in soils (BARNETTE), B., 171. paper bag containers for (MITTELBADISCHE PAPIER-MANUF. ERNST & LUII), (P.), B., 878. commercial, analysis of (Blunt), B., 44. hydrated, analysis of (Richardson), B., 477. phosphate, crude, decomposition of, with sulphurous acid and with ammonium sulphite (STOLLENWERK), B., 652. in serum (Dolhaine), A., 67. dibydrogen phosphate, decomposition of, by water (Sanfourche and Focer), A., 740. determination of neutralising value of, in baking powder (HERD), B., 875. phosphates, solubility of, in citric acid (GRAFTIAN), B., 407. silicate, solid solutions of sodium silicate and (GINSBERG and Nikogosian), A., 418. as source of agricultural lime (BARNETTE), B., 171. sodium silicates, Röntgen-ray structure of (WYCKOFF and Morey), A., 10. silicide, crystal structure of (Böhm and Hassel), A., 297. sulphate (Chassevent), B., 722. manufacture of pure white and finely-distributed (Lichten-BERGER and KAISER), (P.), B., 947. precipitation of (v. Weimarn), A., 518. supersaturated solutions of, and its mixtures with other salts (Chassevent), B., 676. equilibria of hydrates of (Balarev and Spassov), A., 829. setting of hydrates of (Budnikov), B., 483. hemihydrate, solubility of, after heating (SWORYKIN), A., 820. porous compounds from (CASE), (P.), B., 333. See also Anhydrite and Gypsum. pentasulphide, manufacture of (DREWSEN and WEST VIRGINIA Pulp & Paper Co.), (P.), B., 629. hydrogen sulphite, manufacture of solutions of (GILLER), B., Calcium organic compounds :-Calcium cyanamide, heat of combustion of (KAMEYAMA and OKA), A., 718. treatment of (BARSKY and AMER. CYANAMID Co.; BRES-LAUER and COMP. L'AZOTE FERTILISANTS), (P.), B., 310; (STILLESEN), (P.), B., 792. production of sodium cyanide from (Deuts. Gold- & SILBER-SCHEIDEANSTALT), (P.), B., 937. decomposition of, in soils (VERMEIRE), B., 498. effect of, on reaction of soils (PIEN), B., 663. effect of applications of, on nitrate content of field soils (Allison), B., 886. Calcium detection, determination, and separation :detection of, spectrochemically (HUKUDA), A., 745., determination of (CERNATESCU and VASCAUTAN; TERESCHENKO and NECRITCHE), A., 535. determination of, gravimetrically (Franke and Dworzak), A., determination of, volumetrically (HAHN and WEILER), A., 222. determination of, volumetrically, with ferroeyanide (GASPAR Y ARNAL), A., 846. determination of, in aluminium alloys (WARD), B., 282. determination of, in blood (CAVEN and CANTAROW), A., 1214. determination of, in oxalated whole blood (ROTHWELL), A., 985. determination of, in blood-serum (PINCUSSEN and SCHIMMEL-PFENG), A., 585.

Calcium detection, determination, and separation :determination of, in blood and urine (SHARPE), A., 1102. determination of, in human milk (ROTHWELL), A., 1216. determination of, in water (Schoch), В., 158. determination of, and its separation from barium and strontium (Szebellédy), A., 223. separation of, from barium (Gellmann and Höltje), A., 1159. Calcium ions, concentration of, in plasma (WARBURG), A., 67. Calendering machines, rollers for (I. G. FARBENIND.), (P.), B., 812. Calendula officinalis, colouring matter from (Kylin), A., 669. Calendulin (KYLIN), A., 669. Calfskins, extraction of nitrogenous matter from, by salt water (MERRILL), B., 285. action of trypsin on (MERRILL and FLEMING), B., 342. unlimed, action of trypsin on (MERRILL and FLEMING), B., 636. Calico printing (HANNAY), B., 41; (I. G. FARBENIND.), (P.), B., 407. preparation of a printing paste for, with cylinders (CHEM. FABR. vorm. Sandoz), (P.), B., 699. Calorimeters, heat exchanges in, and their surroundings (KLOP-STEC), A., 12. metal, for specific heats of metals and their oxides and slags (Grosse and Dinkler), B., 336. rotating adiabatic (Lipsett, Johnson, and Maass), A., 954. micro-adiabatic, for radiology (SWIENTOSLAWSKI and DORA-BIALSKA), A., 1163. Calorimetry at high temperatures (Rотн), A., 733. using the Joule and Poltier effects (BERENGER-CALVET), A., 629. animal (Deuel, Wilson, and Milhorat), A., 987. Calotropis procera, production of a therapeutic substance from (BOEHRINGER SOIN), (P.), B., 398. Calumba root, alkaloids of. See under Alkaloids. Calves, administration of parathyroid extracts to (Robinson, HUFFMAN, and BURT), A., 796. feetal, composition of blood and tissues of (Collip), A., 1103. Camphane-2-nitrile, 2-amino-, and its hydrochloride (HOUBEN and Pfankuch), A., 364. 2-endoCamphane-2-nitrile (Houben and Pfankuch), A., 364. Camphanylidene-p-aminophenol, and its salts and derivatives (Saccardi and Romagnoli), A., 1196. Camphanylidene-p-phenetidine, and its salts (SACCARDI and Romagnoli), A., 1196. Camphene, constitution of (LIPP, GÖTZEN, and REINARTZ), A., 568.manufacture of (I. G. FARBENIND.), (P.), B., 974. from purine hydrochloride (GAMMAY), (P.), B., 156. Friedel and Crafts reaction with (LIPP, KÜPPERS, and HOLL), and its hydrate, salts of (MEERWEIN, HAMMEL, SERINI, and Vorster), A., 568. Camphenes, preparation of (MASUMOTO), A., 773. stabilisation of, by carboxylic substitution (Langlois), A., 567. a-Camphenone, and its derivatives (NAMETRIN and ZABRODINA), A., 249. Camphenylideneacetic acid, derivatives of (Langlois), A., 568. Campholic acid, derivatives of (v. Braun, Jostes, and Münch), A., 548. Campholic alcohol, a-amino-, and its salts and phenylcarbamideurethane (Salmon-Legagneur), A., 1082. isoCampholic acid, constitution of (LIPP and REINARTZ), A., 1185. Camphor, preparation of, from isoborneol (GAMMAY), (P.), B., 173*. from pinene (Mulany and Watson), B., 426. from turpentine oil (DANIER), (P.), B., 428. synthesis of (Masumoto), A., 773; (L. and E. Darrasse and Dupont), (P.), B., 797*, 828; (Ikeda), A., 1196. rotation of, in alcoholic solutions (Schoorl), A., 500. dissolution of (Ges. für Physik.-Chem. Untersuchungen), (P.), B., 859. recovery of, from mixed gases (Bregeat and Bregeat Corp. of America), (P.), B., 173*. enolisation of (BREDT-SAVELSBERG and RUMSCHEIDT), A., 464. determination of molecular weight in (Carlsonn), A., 300. essence of (Ono), A., 156; (Ono and Takeda), A., 464 behaviour of mixtures of (GÜNTHER and PEISER), A., 1109. mixtures of phenol and, as medicaments (Müller, Günther, and Peiser), A., 900. and trans-hexahydrohydrindene, comparison between (HÜCKEL), and terpenes (Housen and Pfankuch), A., 364. enol ethyl ether of. See 2-Ethoxybornylene.

Camphor, pharmaceutical incompatibility of (MIGLIACCI and CALO), B., 505.

derivatives, pharmacology of (Ischikawa), A., 1220.

derivatives of, with amines (SACCARDI and ROMAGNOLI), A., 1196.

tincture, detection and determination of morphine in (CAINES), B., 570.

Camphor, pernitroso-, action of potassium cyanide on (Passerini), A., 670.

thiol-, metallic derivatives of (DRUMMOND and GIBSON), A., 156. epiCamphor, semicarbazone of (BREDT and PINTEN), A., 156. Camphor oils (Ono and MIYAZAKI), A., 883.

Camphor series (MASUMOTO), A., 773; (HIRAIDSUMI), A., 946. melting-point curves of optical isomerides in (Ross and Somer-VILLE), A., 12.

intramolecular displacements of atoms in (MEERWEIN, HAMMEL, SERINI, and VORSTER), A., 568.

Camphoric acid, a-mononitriles of (Salmon-Legagneur), A., 1081.

Camphorehloroanilic acids (M. and R. Singh), A., 1082. Camphorexocyanoendohydrin (Houben and Pfankuch), A., 364. Camphorimine, action of hydrocyanic acid on (Housen and Рганкисн), А., 364.

a-Camphornitrilic acid, esters of (Salmon-Legagneur), A., 1081. Camphorochlorophenylimides (M. and R. Singh), A., 1082. Camphoroxime o-phenylcarbamate (GHEORGHIU), A., 230.

Camphorquinone, absorption and rotation of, in toluene (KRETH-Low), A., 714.

ketonic acid from (Bredt-Savelsberg, Zaunbrecher, and Knieke), A., 1068.

Camphorsulphonic acid, bromo-, N-ethyltetrahydroquinoline oxide salts (Dodonow), A., 1085.

Cans, preserving, protective coatings for (SERGER), B., 84.

Canal rays. See under Rays.

Cancer, chemistry of tissues in (ENSELME and ENSELME), A., 789.

colloidal lead phosphate for use in (BISCHOFF and BLATHERwick), A., 1110.

isolation of a substance capable of dissolving cells of (WATER-MAN and DE KROMME), A., 1215.

Canning, behaviour of anthocyan pigments in (CULPEPPER and CALDWELL), B., 973.

Cantharellus cibarius, proteolytic enzymes of (Bareš), A., 703. Cantharides, detection of (DAVID), B., 124.

Canvas, rot-proof, determination of copper in (Bonnard and LEBLANC), B., 744.

β-Caouprene chloride, production of (VAN DYK), (P.), B., 564. Caoutchouc (Geiger), A., 870; (Pummerer and Miedel), A., 1192; (PUMMERER and PAHL; SCHEIBE and PUMMERER;

Pummerer, Nielsen, and Gündel), A., 1193. constitution of (PUMMERER), B., 788, 885. physical properties of (LE BLANC and KRÖGER), B., 52. sols, in benzene, charge on (HUMPHRY and JANE), A., 514.

oxidation of (ROBERTSON and MAIR), B., 419. See also Rubber.

n- and iso-Caoutchouc, derivatives of (Bruni and Geiger), A., 1080.

Capillarity (SCHULTZE), A., 625.

thermodynamic theory of (DEKKER), A., 733.

new phenomena of (JANEK), A., 930.

effect of ions on (Kopaczewski and Rosnowski), A., 942. Capsanthin (ZECHMEISTER and v. CHOLNOKY), A., 669.

Capsicum annum, dyes from (Zechmeister and v. Cholnoky), Å., 669, 772; (KYLIN), A., 669.

Capsumin (KYLIN), A., 669.

Capybara oil (Da SILVA), B., 946.

Caraway oil, Rumanian (Kopp), B., 714.

Caraway seeds, testing of (Petersohn), B., 22.

Carbamazides, structure of (HURD and Spence), A., 232. Carbamic acid, ammonium salt, heat of formation of (CLARK and HETHERINGTON), A., 940.

methylbenzyl-, and a-phenyl-n-propyl esters of (Leucus and

WINTHROP CHEMICAL Co.), (P.), B., 893. Carbamide (urea), formation of, by bacteria (Ivanov and Smir-NOVA), A., 379.

preparation of (Stillesen), (P.), B., 203.

manufacture of, from cyanamide (Breslauer, Gouder, and Soc. d'Études Chim. L'Ind.), (P.), B., 507*.

photosynthesis of, from ammonium carbonate (Fearon and M'KENNA), A., 1175.

Carbamide, condensation products of formaldehyde and (Soc. Chem. Ind. in Basle), (P.), B., 228; (I. G. FARBENIND.; POLLAK), (P.), B., 452; (RIPPER and POLLAK), (P.), B., 532*; (BARTHÉLEMY and Soc. Ind. des Mat. Plastiques), (P.), B.,

condensation products of, with polymerides of formaldehyd: (Steppes and Traun), (P.), B., 564.

and its derivatives, condensation of formaldehyde with (Soc. Chem. Ind. in Basle), (P.), B., 496, 563, 756; (Pollak), (P.), B., 756.

conversion of insoluble products of formaldehyde and, into soluble form (Soc. CHEM. IND. IN BASLE), (P.), B., 684. action of, on methylglyoxal (SEEKLES), A., 365.

action of sodium hypobromite on derivatives of (Cordier), A., 138.

action of, on thiosemicarbazides (Guha and Sen), A., 784. rôle of cyanic acid in enzymic hydrolysis of (Fearon), A., 76. diffusion of, in physiological fluids (RIETTI), A., 987. determination of, by means of urease (VAN SLYKE), A., 908. See also Urea.

Carbamide, thio -. See Thiocarbamide.

Carbamides, sedative and hypnotic (BOEDECKER), (P.), B., 860. Carbamides, hydroxy-, structure of (Hurd and Spence), A., 232. Carbamide series (Davis and Abrams), A., 863.

Carbamido-acids, metabolism of. See under Metabolism. s-Carbamidoarylarsinic acids, amphoteric (King), A., 684.

o-Carbamidobenzaldoxime, ω-hydroxy- (v. Auwers and Frese), A., 161.

Carbamidobenzaldoxime-o-carboxylic acid, ethyl ester (v. Auwers and Frese), A., 160.

Carbamidodiphenylcarboxylic acids, 4-nitro- (Moore and Hunt-RESS), A., 665.

λ-Carbamidododecoic acid, ethyl ester (Ruzicka), A., 1171.

5-Carbamido-2-ethoxypyridine (PIERONI), A., 573.

5-Carbamido-2-methoxypyridine (PIERONI), A., 573. 4-Carbamidophenylarsinic acid, 2-hydroxy-, and its salts (King),

Carbamyl azides, Curtius rearrangement of (Stollé, Nieland, and Merkle), A., 885, 1203.

chlorides, substituted, decomposition of, by hydroxy-compounds (PRICE), A., 141.

1-Carbamyl-3-ethylhydantoin, and 1-nitro- (BILTZ and HEIDRICH), A., 1094.

Carbamylindazoles (v. Auwers and Frese), A., 160.

N-Carbamyl-N-methylcarbamylaminomalonic acid (BILTZ, KRZI-KALLA, and SLOTTA), A., 1093.

1-Carbamyl-3-methylhydantoin, and 5-hydroxy-, and their barium salts and 1-nitrocarbamyl derivative, and 5-hydroxy-1-nitro-(BILTZ, KRZIKALLA, and SLOTTA), A., 1092; (BILTZ and Heidrich), A., 1093.

Carbazides of naphthalene series, manufacture of (BRIT. DYE-STUFFS CORP., DYSON, MASON, and RENSHAW), (P.), B., 902.

Carbazidobis-2-(m-benzamido)-4-toluoyl-1'-naphthylamine-4':6':8'trisulphonic acid (BRIT. DYESTUFFS CORP., DYSON, MASON, and RENSHAW), (P.), B., 902.

Carbazines, syntheses of (Goldstein and Piolino), A., 575; (Goldstein and De Simo), A., 1201.

Carbazinic acid, dithio-, cinnamylidenebenzyl ester (Bose and Силиричих), A., 769.

methyl ester, condensations with, and its sulphite (P. C. and S. C. Guha), A., 982.

Carbazole, oxidation of (MAITLAND and TUCKER), A., 776. Carbazole, mono- and di-amino-, derivatives of (MANJUNATH), A.,

tetrachloro- and tetranitro- (RAUDNITZ and BÖHM), A., 453. Carbazole reaction (DISCHE), A., 1213.

Carbazole series, syntheses in (MANJUNATH), A., 978.

1-(3'-Carbazyl)-5-aminobenztriazole, and its acetyl derivative (MANJUNATH), A., 978.

1:3-Carbazyl-5-nitrobenztriazole (Manjunath), A., 978.

Carbethoxy-o-aminobenzhydrazide, and its hydrochloride and derivatives (Heller and Siller), A., 677.

o-Carbethoxyaminobenzoic acid (Putochin), A., 885. o-Carbethoxyaminobenzoylformic acid (Putochin), A., 885.

o-Carbethoxybenzaldoxime-N-carboxylic acid, o-amino-, methyl ester (v. Auwers and Frese), A., 160.

5-Carbethoxybenzthiazole, 1-amino-, and its bromides (Dyson, HUNTER, and MORRIS), A., 680. Carbethoxybromomethylmaleinimide (Küster and Koppen-

HÖFER), A., 1094.

Carbethoxydicyanodiamide (PINCK and BLAIR), A., 345.

4-Carbethoxy-3:5-dimethylpyrrole-2:4-dimethylpyrrolenylmethene (Fischer, Halbig, and Walach), A., 470.

5-Carbethoxy-2:4-dimethylpyrrole-3-glyoxylie acid, ethyl ester (Fischer and Andersag), A., 1206.

5-Carbethoxy-4-methyl-2-anilinomethylpyrrole-3-propionic acid (Fischer and Andersac), A., 1206.

5-Carbethoxy-4-methyl-2-cyanomethylpyrrole-3-propionic acid (Fis-CHER and ANDERSAG), A., 1206.

 γ -Carbethoxy- β -phenyl- $\Delta\gamma$ -hexenoic acid, δ -hydroxy-, lactone of (Borsche and Peter), A., 571.

Carbethoxyphenylthiocarbamides (Dyson, George, and Hunter), A., 351.

Carbethoxyphenylthiocarbimides (Dyson, George, and Hunter), A., 351.

Carbethoxy-c-urethanobenzhydrazide (Heller and Siller), A., 677.

Carbides, production of solid bodies from (Lohmann), (P.), B., 303. of heavy metals, manufacture of (Gewerkschaft Wallram), (P.), B., 80.

Carbimides (isocyanates) (SLOTTA and TSCHESCHE), A., 346, 548, 578.

Carbithionic acids, and their esters (SAKURADA), A., 134.

Carbithionyl groups, introduction of, by means of aluminium chloride (Jöro), A., 875.

Carbocyclic compounds, manufacture of (I. G. FARBENIND. and FARBW. VORM. MEISTER, LUCIUS, & BRÜNING), (P.), B., 550.

Carbodianil, condensation of, with diazomethane (ROTTER), A., 162. Carbohydrates (BRIGL and SCHEYER), A., 43.

structure of (Bergmann), A., 166; (Haworth), A., 858. formation of, from fatty acids by moulds (Terroine, Bonnet, and Duquénois), A., 797.

ultra-violet spectra of (Niederhoff), A., 396; (Kwieciński and Marchiewski) A 1056

and Marchlewski), A., 1056. photosynthesis of (Baly, Stephen, and Hood; Baly and Davies), A., 1041.

reactions of (HIBBERT and HASSAN), B., 904.

action of hydrobromic and hydrochloric acids on (Colin and Ruppol), A., 1173.

and amino-compounds, interaction of (HYND and MACFARLANE), A., 43.

reaction between tannins and (STOCKS and GREENWOOD), B., 231.

production of compounds of (HARRISON), (P.), B., 552.

ethers, colloidal, solubility of (I. G. FARBENIND.), (P.), B., 860. utilisation of (REINHOLD and KARR), A., 480.

effect of drugs on (LUBLIN), A., 1110. relative physiological value of (MITCHELL), A., 374.

specific dynamic action, rate of oxidation and concentration in blood of various (SCHIRLITZ), A., 588.
Sec also Sugars.

Carbohydrazide, reactions of (Brown, Pickering, and Wilson),

Carbolthionic acids, and their esters (SAKURADA), A., 133, 134. 3-Carbomethoxyaminobenzazimide (Heller and Siller), A., 676. Carbomethoxy-o-aminobenzhydrazide, and its hydrochloride (Heller and Siller), A., 676.

3-Carbomethoxyaminotetrahydroquinazoline-2:4-dione (Heller and Siller), A., 677.

Carbomethoxy-c-carbomethoxyaminobenzhydrazide (Heller and Siller), A., 677.

4-Carbomethoxyhydrazinotetrahydrocinnoline-ω-carboxylic acid, potassium salt (Diels and Alder), A., 160.

3-Carbomethoxy-5-methoxybenzaldehyde (Mauthner), A., 970.
3 - Carbomethoxy - 5 - methoxybenzoie acid, and its chloride (Mauthner), A., 970.

-Carbomethoxyphenyldimethylsulphonium salts (Sachs and Ott), A., 243.

β-(3-Carbomethoxypiperidyl)ethyl p-amino- and p-nitro-benzoates, hydrochlorides of (Baines and Adams), A., 672.

y-(3-Carbomethoxypiperidyl)propyl p-amino- and p-nitro-benzoates, hydrochlorides of (Barnes and Adams), A., 672. Carbon, production of (Fischer and Tropson), (P.), B., 66;

(LEDERER), (P.), B., 244. spectrum of (Ganesan), A., 89.

atomic model of (LINDSAY), A., 501.

valency of (Scheibler), A., 338, 1051; (WARD), A., 454, 1061. arc spectrum of (WOLF), A., 1; (McLennan and McLay), A., 389.

second order spectrum of (MIRUL), A., 705.

Carbon, series spectrum of (Bowen), A., 285.

Swan band spectrum of (Johnson), A., 395. reflexion of Röntgen rays by (Ponte), A., 191.

disintegration of, by α-particles (Pettersson; Stetter), A., 494.

ionisation potentials of (MILLIKAN and Bowen), A., 913.

atoms, tetrahedral, stereochemistry of (Kuhn and Zell), A., 41; (Kuhn and Albrecht), A., 749; (Kuhn and Rebel), A., 852.

chains, alternating effect in (Goss, Hanhart, and Ingold), A., 236; (Baker and Ingold), A., 236, 558; (Baker), A., 454; (Baker and Wilson; C. K. and E. H. Ingold and Shaw), A., 550; (Ingold and Wilson), A., 553; (Cooper and Ingold), A., 558; (Hanhart and Ingold), A., 650; (Ingold, Smith, and Vass), A., 762; (Ingold and Smith), A., 870; (Baker and Eccles), A., 1068.

rings (Ruzicka), A., 57; (Seidel), A., 1189. adsorption by, in viscous media (Weissenberger and Fränkel),

A., 198. effect of hydrogen-ion concentration on (HAUGE and WILLAMAN), A., 929.

simultaneous adsorption of sucrose and colouring matters by (VAŠATRO), B., 952.

equilibria of, with its oxides (FALCRE), B., 191; (STANSFIELD), B., 720.

and its oxides, equilibria of, with iron and its oxides (Iwast), B., 45.

influence of diffusion of oxygen on rate of combustion of (WARD and HAMBLEN), A., 1037.

combination of alkali metals with (Fredenhagen and Cadenbach), A., 218.

behaviour of, with sulphur at high temperatures (WIBAUT), B., 876.

active, manufacture of (URBAIN and URBAIN CORP.), (P.), B., 162; (THRELFALL), (P.), B., 515; (BONE and WILSON BROS. BOBBIN CO.), (P.), B., 740; (I. G. FARBENIND.), (P.), B., 769, 807*; (I. G. FARBENIND. and FARBENFABR. VORM. BAYER & CO.; WALLACE), (P.), B., 805; (SAUER), (P.), B., 868*.

determination of quality of (VYTOPIL), B., 641.

revivification of (Allien and Darco Sales Corp.), (P.), B., 6; (Arentz and U.S. Industrial Alcohol Co.), (P.), B., 290; (Backhaus and U.S. Industrial Alcohol Co.), (P.), B., 344.

swelling of (PAVLOV), A., 722.

adsorption effects of various kinds of (TRAUBE; SPENGLER and LANDT), B., 664.

adsorption of alkali chlorides from solutions by (Zelinski and Balandin), A., 15.

pulverulent, production of, at low temperatures (Bube), (P.), B., 133.

adsorbent, manufacture of (BARNEBEY and CHENEY), (P.), B., 290.

recovery of solvents from (RAY and CARBIDE & CARBON CHEMICALS CORP.), (P.), B., 60.
agglomerated, manufacture of (Soc. Recherones d'Exploit-

ATIONS PÉTROLIFIÈRES), (P.), B., 133, 356. alkaline iron-treated, preparation of, for cyanide synthesis

(MICHAEL & Co.), (P.), B., 409. amorphous, manufacture of (MACDONALD and RUCKER), (P.),

B., 722. catalytic, preparation of (Jacobs and Du Pont de Nemours &

Co.), (P.), B., 962. decolorising, manufacture of (Wickenden, Okell, and Indus-

TRIAL CHEMICAL Co.; WICKENDEN, OKELL, and INDUSTRIAL CHEMICAL Co.), (P.), B., 769.

from vegetable material (BARNEBEY), (P.), B., 290. action of, on molasses (GARINO and BENVENUTO), B., 685.

in sugar work (KÜHN), B., 685.

disperse, scattering and polarisation of light by (Pokrovski), A., 93.

fused, manufacture of articles from (I. G. FARBENIND. and A.-G. FÜR ANILINFABR.), (P.), B., 370. gas, thermal conductivity of (HOLM), A., 717.

granular, manufacture of (WESTERN ELECTRIC Co.), (P.), B., 594; (BUNTING), (P.), B., 931.

for telephone transmitters (Barralet), (P.), B., 866. hard, formation of layers of, on other materials (Siemens & Halske and Hartmann), (P.), B., 467.

Carbon, incandescent, reaction between steam and (THIELE and HASLAM), A., 944.

lustre, preparation and properties of (K. A. and U. HOFMANN), B., 802.

heats of combustion of (ROTH and DOEPKE), A., 315.

metallic, production of (Robinson and Westinghouse ELECTRIC & MANUF. Co.), (P.), B., 769.

vegetable, manufacture of (L. H. and A. H. Bonnard), (P.), B., 34, 246*.

Carbon alloys with chromium and iron (SAUERWALD, NEUDECKER, and RUDOLPH), A., 517.

with iron, magnetic susceptibility of (Honda and Endo), A., 1130.

A3 transformation in (SCHWARTZ), B., 630.

behaviour of iron carbide in (EVANS and HAYES), B., 630. influence of nickel and silicon on (EVEREST, TURNER, and HANSON), B., 782.

with iron and silicon (HANSON), B., 782.

with iron and vanadium for Brinell balls (QUICK and JORDAN), B., 752.

Carbon tetrachloride, gaseous, refraction and dispersion of (Lowery), A., 926.

dielectric constants and densities of organic compounds in (Krchma and Williams), A., 1132.

solubility of, in liquid sulphur dioxide (Beach and Bond), A., 405.

mixture of, with dichloroethane, for use as fumigant (Cotton and Roark), B., 862

suboxide (EDWARDS and WILLIAMS), A., 506.

and its additive compounds with tertiary bases (DIELS and HANSEN), A., 40.

graphitic oxide of (Burgess Laboratories, Brown, Storey, SILVER, and COLLINSON), (P.), B., 17, 787*.

monoxide, plant for production of (Burstall and Ellis), B., 139.

refractivity of (Morton and Riding), A., 614.

band spectra of (BIRGE), A., 184. radiating potentials of band spectra of (DUFFENDACK and

Fox), A., 497. Zeeman effect in band spectrum of (KEMBLE, MULLIKEN, and Crawford), A., 1119.

infra-red emission spectrum of, in oxygen (GARNER and Jounson), A., 184.

electron collisions in (MOHLER and FOOTE), A., 180.

working with, under pressure (I. G. FARBENIND.), (P.), B., 601.

thermal diffusion of nitrogen and (IBBS and UNDERWOOD),

A., 616. chemical equivalence of nitric oxide and (MANCHOT and

PFLAUM), A., 1155. heat of adsorption of, on catalytic copper (Beebe), A., 23. adsorption of, by silver sulphate (MANCHOT and KÖNIG),

A., 1155. molecular vibrational energy of (MATOSSI), A., 93.

decomposition of, in the corona (LUNT and VENKATESWARAN), A., 531.

catalytic oxidation of (I. G. FARBENIND.), (P.), B., 907. in contact with quartz glass (Benton and WILLIAMS), A., 28. combustion of (HARRISON and BAXTER), A., 211.

temperatures of (DROSSBACH), A., 940. over cupric oxide (BRODY and MILLNER), A., 939.

in gasoline engines (LOVELL, COLEMAN, and BOYD), B., 322. oxygen required for (Jones and Perrott), A., 1036;

(Finch), A., 1146. explosions of air and (ELLIS and WHEELER), A., 211.

combustion of hydrogen and air with (MAXWELL, PAYMAN, and Wheeler), A., 317.

ignition of mixtures of hydrogen and (CAMPBELL and Wood-HEAD), A., 115.

ignition of mixtures of oxygen and (Brewer), A., 1147. explosion of mixtures of oxygen and (SAUNDERS and SATO),

combination of oxygen and, in contact with fireclay (Bone and Forshaw), B., 289.

effect of free oxygen on reaction of chlorine with (SCHUMACHER), A., 1147.

reaction of, with magnesium phenyl bromide, in presence of chromium chloride (JoB and CASSAL), A., 865. use of, in organic syntheses (DIETERLE and ESCHENBACH), A., 766.

Carbon monoxide, synthesis of paraffin hydrocarbons from (FISCHER, TROPSOH, and TER-NEDDEN), A., 748. decomposition of, by bacteria (HASEMANN), A., 701.

effect of inhalation of, on metabolism (WALTERS), A., 480.

poisoning. See under Poisoning. toxicity of, in tissues (HALDANE), A., 1110.

determination of (STAVORINUS), B., 834. determination of, in air (KOMAR), B., 936.

apparatus for determination of (KATZ), (P.), B., 469*. determination of, colorimetrically (KAST and SCHMIDT).

B., 748. determination of, with silver or gold salts (MANCHOT and Scherer), A., 331.

determination of, in blood (VAN SLYKE and ROBSCHEIT-Robbins), A., 475.

determination of, in gas mixtures (Thorburn), B., 803. dioxide, manufacture of (HAYNES), (P.), B., 188; (KIRCHEISEN;

GEERE), (P.), B., 815; (ELKIN and HAYNES), (P.), B., 842. concentrated (DREWSEN and WEST VIRGINIA PULP & Paper Co.), (P.), B., 299.

from carbon monoxide and hydrogen (RIÉGERT), (P.), B., 937.

recovery of, from waste flue gases (RABINOVITCH), B., 271. generation of, from stable mixtures (Schwarzlose Söhne and SEYDEL), (P.), B., 440.

for fertilising plants, production of (Hörning), (P.), B., 467. spectrum of (Fox, Duffendack, and Barker), A., 916. infra-red absorption spectrum of (WIMMER), A., 89. magnetic susceptibility of (VAIDYANATHAN), A., 300.

action of magnetic fields on refractive index of (APPLEYARD), A., 294.

shape of molecules of, and its specific heat (Schaefer; McCrea), A., 1122.

cross-sectional area of molecules of, against slow electrons (RAMSAUER), A., 1011.

thermal conductivity of (GREGORY and MARSHALL), A., 403. heat of adsorption of (Magnus and Kälberer), A., 928. heat of adsorption and molecular structure of (STARK and Вьён), А., 922.

molecular heat of (SHILLING), A., 301.

ratio of specific heats of nitrogen and (BURLOT), A., 301.

vapour pressure of, at 0° (Bridgeman), A., 615. density of (PARR and KING), A., 818.

dissociation of, at high temperatures (FENNING and TIZARD), A., 826; (DAVID), A., 827.

liquid, vapour pressure of (Meyers and Van Dusen), A., 615. solid, as a refrigerant (KILLEFFER), B., 250.

equation of state for (Bridgeman), A., 615; (Beattie and Bridgeman), A., 819.

adsorption of, by pyrophoric iron, nickel, and cobalt (NIKITIN), A., 406.

influence of organic compounds on adsorption of, by sodium carbonate solutions (RIOU and CARTIER), A., 311.

thermal diffusion of nitrous oxide and (IBBS and UNDERWOOD), A., 616.

rapidity of mixing of, with air in air samples (CARPENTER and Fox), A., 846.

ammonia, ammonium nitrate, and water, partial pressure of gases in the system (CLARK and KRASE), B., 250

separation of, from gas mixtures (LIEBKNECHT and ROESSLER & Hasslacher Chem. Co.), (P.), B., 107; (Bamag-Meguin A.-G.), (P.), B., 770.

recorders and indicators for (GROUNDS), B., 672; (ROSECRANS), B., 710.

molecular vibrational energy of (MATOSSI), A., 93.

velocity of hydration of, in aqueous solution (Eucken and GRÜTZNER), A., 424. decomposition of, by spark discharge (Jolibois, Lefebyre,

and Montagne), A., 19, 322.

use of, in mercury interrupters (PARANJPE and TENDULKAR), equilibrium of, in alveolar air and blood (DILL, HURXTHAL,

VAN CAULAERT, FÖLLING, and BOOK; DILL, LAWRENCE, HURXTHAL, and BOCK), A., 984. absorption of, by blood and tissues (SHAW), A., 167.

determination of, by conductivity method (BAYLISS), A., 745. determination of, from fermentation (RAYMOND and WINEgarden), A., 996.

determination of, volumetrically, in carbonates (LINDNER and HERNLER), B., 408.

Carbon dioxide, determination of oxygen and (GMEINER), A., 1228. determination of, in blood (RAFFEL), A., 1101. determination of, in physiological fluids (NICLOUX), A., 996. oxides, regeneration of contact masses for catalytic hydrogenation of (PATART), (P.), B., 805. equilibria of, over copper (BRODY and MILLNER), A., 939. Carbonic acid, action of ultra-violet light on (BALY, DAVIES, JOHNSON, and SHANASSY), A., 1040. dissociation constant of (KLEMENC and HERZOG), A., 204; (BUYTENDYR, BRINKMAN, and MOOK), A., 729. determination of, by precipitation (LINDNER), A., 1161. Carbonic acid, chloro-. See Formic acid, chloro-. Carbonates, crystalline, structure of (LENNARD-JONES and DENT), A., 96. infra-red absorption spectra of (Schaefer, Bormuth, and Matossi), A., 5. crystalline, magnetic anisotropy of (KRISHNAN and RAMAN), solubility of uric acid in (S. and H. LANG), A., 730. action of fluorine on (FICHTER and BLADERGROEN), A., 741. acid, action of dextrose, alcohol, and carbon dioxide on hydrogen-ion concentration of solutions of (BIILMANN and Katagiri), A., 516. finely-divided, calcination of (DWIGHT & LLOYD METAL-LURGICAL Co.), (P.), B., 777. insoluble, determination of sulphide, thiosulphate, sulphur in (BRINTZINGER and RODIS), B., 841. determination of carbon dioxide in (HEPBURN), B., 42. Carbon disulphide, preparation of (SCHULZ), (P.), B., 440. manufacture of (ZAHN & Co.), (P.), B., 75; (BUCHNER), (P.), B., 188; (I. G. FARBENIND.), (P.), B., 189. spectra of phosphorescent flames of (EMELEUS), A., 7. use of, in measurements of electric double refraction (Beams and Allison), A., 610. purification of (LECELER and ESSELMANN), (P.), B., 522; (I. G. FARBENIND. and CHEM. FABR. GRIESHEIM-ELEKTRON), (P.), B., 907. burning of, near the propagation limit (WHITE), A., 524. crude, production of pure carbon disulphide, sulphur, and concentrated hydrogen sulphide from (I. G. FARBENIND.), condensation of, with diazomethane (ROTTER), A., 247. thiohydrates of (BILTZ and BRÄUTIGAM), A., 627. determination of, in its emulsions (FISHER), B., 876. sulphides, solid (WIBAUT), B., 876. Carbon determination: determination of (BERL and BURKHARDT), A., 66; (LUSTIG), determination of, gas-volumetrically (GRÄNACHER), A., 745. determination of, microchemically (NICLOUX), A., 436. determination of, in cast iron (MACKENZIE), B., 191. determination of, in soils (Brown), B., 536. determination of, in physiological fluids (KAUFFMANN-COSLA), A., 80. Carbon black, manufacture of (BIRD and TRIESCHMANN), (P.), B., 290; (Matt.ock and Monroe-Louisiana Carbon Co.), (P.), B., 466, 868*; (Dales), (P.), B., 769; (Barbour), (P.), B., 835. from natural gas (Parsons, Inskeep, and Hunt), (P.), B., 577. Carbon steel. See Steel under Iron. Carbonaceous materials, manufacture of (OBERLE), (P.), B., 769; (Roessler & Hasslacher Chem. Co.), (P.), B., 805. cleaning of (Lessing), (P.), B., 866. treatment of (Nielsen and Laing), (P.), B., 68*. electric furnace for (NAUGLE), (P.), B., 694.
distillation of (MARSHALL), (P.), B., 244; (DAVIDSON and PATENT RETORTS; McCORMICK), (P.), B., 356;

Carbonisation of fuels (TRENT; INTERNAT. COMBUSTION ENGINEER-ING CORP. and RUNGE), (P.), B., 99.
of subdivided fuel (McEwen and Internat. Combustion Engineering Corp.), (P.), B., 931*. high-temperature, formation of naphthalene during (Kosaka and OSHIMA), B., 691. low-temperature (Brownlie), B., 177; (Whitehead and Hird), (P.), B., 180; (Pamart), (P.), B., 468; (Mars), (P.), B., 626; (Ab-Der-Halden), (P.), B., 804; (Metall-BANK & METALLURGISCHE GES.), (P.), B., 960. conditions of (DAVIES), B., 769. Turner process for (ILLIES), B., 576. by direct internal heating (DEUTSCHE ERDÖL-A.-G.), (P.), В., 385. coal, lignite, etc. (Bretherick and Glossop), (P.), B., 930. retort oven for (ZUYDERHOUDT), (P.), B., 741*. in vertical retorts (Lander and Shaw), B., 288. Carbonisation apparatus (Charbonnages & Agglomérés Du BASSIN DE LA TAVE), (P.), B., 835. retorts. See under Retorts. Carbonyl azides, action of Grignard reagents on (Bertho), A., 679. chloride (phosgene), preparation of (Secareano), A., 645. photochemical formation of (Bodenstein, Büte (Bodenstein, Bütefisch, KAHLE, SUSSENGUTH, HEISENBERG, and HARTECK), A., emission of electrons from reaction of sodium and potassium alloys with (RICHARDSON and BROTHERTON), A., 713. thermal dissociation of (Ingleson), A., 1035. action of magnesylpyrroles on (Oddo and Mingoia), A., 1098. compounds, metallic compounds of enolic forms of (Scheibler and Mahboub), A., 357, 1167. unsaturated, reduction potentials of (CONANT and LUTZ), A., 522. sulphide, production of (Soc. NAT. RECHERCHES TRAITEMENT COMBUSTIBLES), (P.), B., 180. (ABDERHALDEN and KRÖNER), Carbonylbis(glycyl-l-leucine) Carbonyldi-indoles (Oddo and Mingola), A., 1098. Carbonyldimethylketoles, and their diacetyl derivative (Oppo and MINGOIA), A., 1098. Carbonyldodecoic acid, λ-chloro-, ethyl ester (Ruzicka), A., 1171. Carbonylnonoic acid, θ -chloro-, ethyl ester (Ruzicka), A., 1171. Carbonyloctoic acid, η -chloro-, ethyl ester (Ruzicka), A., 1171. Carbopyrotritartaric acid, oxonium derivatives of (TREFILIEV and Aisenberg), A., 543. Carborundum, formation of (RUFF and Konschak), A., 102. a-Carboxy-n-amylsulphonic acid. See Sulpho-n-hexoic acid. 1-Carboxyanilino-1-cyanocyclopentanes (OAKESHOTT and PLANT), A., 356. 1-Carboxyanilinocyclopentane-1-carboxylic acids, and their amides (OAKESHOTT and PLANT), A., 356. 3-Carboxyazobenzene-4'-stibinic acid, 4-hydroxy-, and its disodium salt (Dunning and Reid), A., 65. p-Carboxybenzaldoxime, ω-chloro- (RHEINBOLDT, JANSEN, and SCHMITZ-DUMONT), A., 245. 3-o-Carboxybenzamido-2-p-anisylquinoline, and its 4-carboxylic acid (Berlingozzi and Burg), A., 674. γ-phenylhydrazones ζ - o - Carboxybenzamidohexane - $\beta\gamma$ - dione (Manske, Perkin, and Robinson), A., 265. 2-Carboxybenzoylperylene, 4-chloro- (Linke, Gorbach, and Schimka), A., 1190. cis- and trans-2-Carboxydecahydronaphthalene-2-acetic acids, and their anhydrides (Hückel and Wiebke), A., 150. 2-Carboxy-3:4-dimethoxyphenylacetonitrile, 6-bromo-, and its anhydride (Haworth, Koepfli, and Perkin), A., 472. derivatives 4-Carboxy-1:1-dimethyl-2-methylenepyrrolidinium (Mannich and Gollasch), A., 572. (Dvorkovitz), (P.), B., 437*; (Sutcliffe), (P.), B., 468; (Trumble), (P.), B., 548; (Salermo, Ltd. and Salerni), 3-Carboxy-2:6-dimethyl-4-pyridylaminoacetic acid, and its derivatives (Koenigs and Kantrowitz), A., 1207. (P.), B., 694; (Nielsen and Laing), (P.), B., 867. 3-Carboxy-2:6-dimethylpyridyl-4-thiolacetic acid, and its hydrosolid (RICHARDSON), (P.), B., 134; (DAVIDSON), (P.), B., chloride (Koenigs and Kantrowitz), A., 1207. 644. Carboxydiphenylarsinic acids (Sakellarios), A., 64. distillation and coking of (MOELLER; TRENT), (P.), B., 99; Carboxydiphenylamine-6'-arsinic acids (Burton and Gibson), A., (HONIGMANN and BARTLING), (P.), B., 804. 264. cracking, catalysing, and hydrogenation of (BIANCHI and GUARDABASSI), (P.), B., 930. 3'-Carboxydiphenyl sulphones, aminohydroxy- (I. G. FARBENIND.), (P.), B., 360. activated (SUTCLIFFE), (P.), B., 469*. 5 - Carboxy - 2 - ethoxy - 1 - $\beta\beta\beta$ - trichloro - α - hydroxyethylbenzene Carbonisation (Inst. Gas Engineers), B., 592. (Chattaway and Prats), A., 458. prevention of sticking of material in (I. G. FARBENIND.), Carboxyhæmatic acid, synthesis of (FISCHER and HEISEL), (P.), B., 626.

A., 1088.

cis-o-Carboxycyclohexaneacetic acid (Kon and Qudrat-i-Khuda),

Carboxylase, kinetics of action of (Hägglund and Rosenqvist), A., 376.

4-Carboxy-2-methylenepyrrolidinium*piro-1:1'-piperidinium derivatives (Mannich and Gollasch), A., 572.

2-Carboxy - 1 - methylcyclohexane - 2 - acetic acid (Hückel and Wiebke), A., 150.

4-o-Carboxyphenyl-5:6-benzocoumarin, and 3-bromo-, and their ethyl esters (DISCHENDORFER and DANZIOER), A., 968.

4-o-Carboxyphenyl-3:4-dihydro-5:6-benzocoumarin, and its ethyl ester (DISCHENDORFER and DANZIOER), A., 968.

m-Carboxyphenylmethylsulphine-p-toluenesulphonylimines, their salts (CLARKE, KENYON, and PHILLIPS), A., 243.

2-o-Carboxyphenylquinazoline-4-carboxylic acid, disodium salt (BOGERT and McColm), A., 1205.

2-p-Carboxyphenyl-1:2:3-triazole, and its methyl ester (Fries and ARNEMANN), A., 779.

2-p-Carboxyphenyl-1:2:3-triazole-4:5-dicarboxylic acid, and its derivatives (FRIES and ARNEMANN), A., 779.

3-[a-Carboxy-β-pyridyl]-1-phenyl-1:2:5-triazole-4-carboxylic and its barium salt (BERETTA and BENATI), A., 578.

4-Carboxy-1:1:2-trimethylpyrrolidinium bromide (Mannich and GOLLASCH), A., 572.

β-Carboxyvinylcarbamic acid, sodium salt (RINKES), A., 652.

β-Carboxyvinylurethane (RINKES), A., 45.

Carbro process of photography, theory and practice of (Lighton), B., 861.

Carbylamines (isonitriles; isocyanides) (PASSERINI), A., 149, 868.

Cardiazole. See Pentamethylenetetrazole.

Carminic acid, constitution of (MIYAGAWA), A., 134.

Carnallite, specific heat of, and its heat of dissolution in leach liquors (Küpper), B., 478.

leaching of (Keitel and Gerlach; Küpper and Althammer), B., 479.

cold-leaching of (KÜPPER), B., 479.

liquors, removal of slimes from (RATIG), B., 478.

Carnitine, constitution of (CRAWFORD and KENYON), A., 343. in tendons (Gulevitsch), A., 788.

Carnosine, effect of, on gastric secretion (RASENKOW, DERWIES, and SEWERIN), A., 171.

in tendons (Gulevitsch), А., 788. determination of (KUEN), A., 1215.

1-Carol (Menon and Simonsen), A., 882.

Carone, reactions of, and its cyanohydrin (Menon and Simonsen), A., 882.

Carotin, adsorption of, by charcoal and inorganic salts (WILLIMOTT), A., 820.

Carotinoids of algae (Kylin), A., 703.

Cartridges, primer for (HORNEY), (P.), B., 380.

Carylxanthic acid, methyl ester (Menon and Simonsen), A.,

Cascara sagrada, analysis of (BERARDI and CANAN), B., 92.

Casein, manufacture of pure phosphorus-containing nuclear substance of (Soc. Chem. Ind. in Basle), (P.), B., 734*. colloidal solutions of (v. WEIMARN), B., 136.

hydrolysis of, by alkalis (Yaitschnikov), A., 944. solubility of, in sodium hydroxide (Pertzoff), A., 895.

formation and ionisation of alkali compounds of (GREENBERG), A., 1140.

reaction of tannins with (STOCKS), B., 231.

glue from (PRESTHOLDT), (P.), B., 21.

artificial horn from (OBRIST and MANFRED), B., 21.

manufacture of shaped articles of (BARTELS and MIECH), (P.),

hardened, manufacture of plastic masses from (Soc. Ind. des Matieres Plastiques), (P.), B., 825.

technical, acid and fat content of (MARCUSSON and PICARD), B., 890.

determination of, in milk (WATERMAN), B., 538.

determination of acids and fats in (MARCUSSON and PICARD), B., 264.

Casein, chloro- (VANDERVELDE), A., 65.

Caseinogen (MEYER), A., 70.

effect of temperature on properties of (Pertzoff), A., 895. phosphorus of (POSTERNAR), A., 581; (RIMINGTON), A., 1211.

 α -, β -, and γ -lactotyrins from hydrolysis of (Posternak), A., 273.

Caseinogen, effect of remain on (Pertzoff), A., 895. diaminododecanedicarboxylic acid from (Fränkel and Fried-

MANN), A., 547. dephosphorised (RIMINGTON), A., 272.

Cassiterite. See Stannic oxide under Tin.

Castanea vesca (chestnut), tannin from (Kurmeier), B., 611.

Casting patterns, cement composition for making (PAPE), (P.), B., 142.

Castor oil, tasteless and odourless (NITARDY and SQUIBB & SONS), (P.), B., 417.

detection of, in fatty mixtures (VIZERN and GUILLOT), B., 170. Castoreum, composition of (Pfau), B., 571.

Cats, growth of (v. Hoesslin), A., 990. depanceatised, carbohydrate metabolism of brain of (B. E. and E. G. HOLMES), A., 479.

Catalase (v. Euler and Josephson), A., 376, 793.

activity of, effect of temperature on (MORGULIS and BEBER), A., 483.

effect of nutrient solutions on (EZELL and CRIST), A., 1225. in seeds (GRACANIN), A., 384.

in relation to biological oxidation (STERN), A., 483.

determination of, in blood (Golzov and Jankovsky), A., 689; (Gagarina), A., 1103.

Catalysis, theory of dislocations in (BÖESEKEN), A., 1150.

improvement of (PRUDHOMME), (P.), B., 180.

minimum point in (BERGSTEIN and KILPATRICK), A., 214;

(Bergstein), A., 321; (Dawson), A., 1038. acid and salt effects in (Dawson and Dean), A., 27; (Dawson and Hoskins), A., 117; (Dawson), A., 214, 320, 527, 632, 737; (Dawson and Lowson), A., 1038, 1150.

by acids and bases (Lowry), A., 1150. kinetic activity, adsorption and molecular deformation as factors in (ALEXANDER), A., 528.

in currents of gases (Andrussov), A., 1039. of gas reactions, kinetics of (Benton), B., 399. in homogeneous gas reactions (v. Kiss), A., 1038.

displacement of equilibria by accelerators for (Schlesinger and

Malkina-Okun, A., 837. aluminium ovens for (Fischer and Tropsch), B., 927.

contact (Remy), A., 28; (Taylor and Kistiakovski), A., 426; (Schwab and Pietsch), A., 632; (Reid), A., 837. heterogeneous, and polarisation (SPITALSKY and KAGAN), A.,

homogeneous, kinetics of (Spitalsky and Kobosev), A., 835. promoter action in (ROBERTSON), A., 837

negative, theory of (Bäckström), A., 737, 1151. in homogeneous systems (Robertson), A., 632.

Catalysts, reciprocal activation and de-activation of (QUARTAROLI),

A., 527

effect of X-rays on activation of (CLARK), B., 692. active surface of (Kubota), A., 945.

inversion of rôle of (SABATIER), A., 737.

carrier for (Downs), (P.), B., 768.

for ammonia synthesis (LARSON and BROOKS; ALMQUIST and CRITTENDEN, B., 72.

for formation of methyl alcohol (TAYLOR and KISTIAKOWSKY), A., 1151; (WOODRUFF, BLOOMFIELD, and COMMERCIAL SOLVENTS CORP.), (P.), B., 125.

heat-treated and poisoned, heat of adsorption on (KISTIAKOWSKY, FLOSDORF, and TAYLOR), A., 1021.

iron, for ammonia synthesis, poisoning action of oxygen on (ALMQUIST and BLACK; ALMQUIST), A., 29.

metallic, measurement of absolute surface area of (Constable),

regeneration of (PRUDHOMME and Soc. INTERNAT. DES PROC. Prudhomme), (P.), В., 785.

carrier, influence of adsorptive power of the carrier on activity of (Sabalitschka and Moses), A., 427.

oxidising (Frazer), (P.), B., 11. metallic ions as (Cook), A., 28.

organic (Langenbeck), A., 546.

Catalytic action, colloidal character of (TAYLOR), A., 632. of nitrogen compounds (Moureu, Dufraisse, and Badoche), A., 28.

activation at surfaces (TAYLOR), A., 28. combustion. See under Combustion.

dehydrogenation (Zelinski, Titz, and Fatejev), A., 47; (I. G. Farbenind.), (P.), B., 541, 669.

formation of condensed ring systems by (Zelinski, Titz, and GAVERDOVSKAJA), A., 47.

Catalytic hydrogenation (Traube and Lange), A., 117. of compounds with conjugated double linkings (VAVON and Jakes), A., 336. of liquids, apparatus for (Schueler), (P.), B., 767. with metallic oxides (SABATIER and FERNANDEZ), A., 866. with palladium and platinum (Vavon), A., 1165. with platinum oxide (DIAZ AGUIRRECHE), A., 1188. masses, manufacture of active absorbents and (I.G. FARBENIND.), (P.), B., 653. oxidation by complex iron salts (BAUDISCH and DAVIDSON), A., 321. low-temperature, at charcoal surfaces (WRIGHT), A., 1039. in aqueous solutions (MILAS), A., 973. of organic compounds (I. G. FARBENIND.), (P.), B., 903. reactions (Canon, Andrews, and Selden Co.), (P.), B., 175. mechanism of (DHAR), A., 216. promotion of (Downs and Barrett Co.), (P.), B., 60. with gases at high temperature and pressure (PATART), (P.), B., 241. effect of small additions of poisonous substances on (Con-STABLE), A., 945. Cataphoresis, technique of (ETTISCH and DEUTSCH), A., 310. in colloids (VINCENT), A., 625. in colourless sols (HUMPHRY and JANE), A., 514. in mixed solvents (BIKERMAN), A., 825. Catechin, absorption spectra of derivatives of (Tasaki), A., 918. Caterpillar, tent. See Malacosoma americana. Catgut, substitutes for (DUNLOP RUBBER Co. and TRUESDALE), (P.), B., 214. Cathodes, current density in relation to fall at (Seeliger and REGER), A., 811. glow discharge from, lit with ultra-violet light (SALZWEDEL), sputtering of (Blechschmidt; v. Hippel), A., 118; (Baum), A., 317. for electrodeposition (Internat. Copperclad Co. and Robinson), (P.), B., 47. antimony, over-potential at (SAND, GRANT, and LLOYD), A., electron-emitting, preparation of (HOLBORN and HAZELTINE CORP.), (P.), B., 529, 786; (MILLER and HAZELTINE CORP.), (P.), B., 882. incandescence (N.V. PHILIPS' GLOEILAMPENFABR.), (P.), B., 786. mercury, use of, in electroanalysis (Lukens), A., 533. for determination of arsenic (AUMONIER), B., 813. oxide (N.V. Philips' Gloeilampenfabr.), (P.), B., 754. manufacture of (N.V. Philips' Gloeilampenfabr.), (P.), B., 705. for discharge tubes (N.V. PHILIPS' GLOEILAMPENFABR.), (P.), B., 584. electron emission from (ESPE), A., 603, 604. oxidised, production of (SUDDEUTSCHE TELEFON-APPARATE-, Kabel-, & Drahtwerke), (P.), B., 258. thermionic valve (HYDE), (P.), B., 145. Cathode rays. See under Rays. Cattle, minimum mineral requirements in (THEILER, GREEN, and ри Тогт), А., 899. blood of. See under Blood. Cauccione (BRUNI and GEIGER), A., 1080. Caulophyllum thalictroides, glucosides of (DAVY and CHU), A., 799. Caustic soda. See Sodium hydroxide. Ceanothus americanus, action of alkaloids of, on blood coagulation (THARALDSEN and KRAWETZ), A., 376. Cedar, Siberian, oil from fruits of (RUTSCHKIN), B., 915. Cedar oil from fruits of Siberian cedar (RUTSCHKIN), B., 915. Cedar wood oil, Port Orford, constituents of (THURBER and ROLL), B., 733. Cell or Cells, electrochemical (HERMANEK), (P.), B., 196; (PELLINI; LAWACZECK), (P.), B., 338; (HEIL), (P.), B., 338, 659, 944; (WEISSMANN), (P.), B., 371; (NYBERG), (P.), B., 371*; (JAHNKE), (P.), B., 392; (CARPENTER and EDISON SWAN ELECTRIC CO.), (P.), B., 727; (BRENNER), (P.), B., 820; (RURGER), (P.) (Burger), (P.), B., 944. electronic theory of (CORBINO), A., 1144. depolariser for (Burgess Laboratories and Brown), (P.), B., 786, 787*

diaphragms for (Beckmann), (P.), B., 81; (BILLITER and SIEMENS & HALSKE), (P.), B., 786; (BILLITER; BAMAG-

MEGUIN A.-G.), (P.), B., 944.

with identical constant electrodes (KARPEN), A., 1144. electrolyte for (SLEPIAN, HAVERSTICK, and WESTINGHOUSE ELECTRIC & MANUF. Co.), (P.), B., 17. with transference, potential of (TAYLOR), A., 1144. for production of sodium hydroxide (Jessup & Moore Paper Co.), (P.), B., 530. for electrolysis of water (STUART), (P.), B., 849; (KNOWLES), (P.), B., 944. copper oxide (Transmutor Co.), (P.), B., 583. Daniell and equilibrium, potential of (Lorenz and Oppen-HEIMER), A., 523. double fluid (DARIMONT), (P.), B., 607, 660. dry (Twin Dry Cell Battery Co.; Deibel and Waitt), (P.), B., 450; (Yngve and National Carbon Co.), (P.), B., 786; (Heil), (P.), B., 850. depolariser for (Heise and National Carbon Co.), (P.), B., Leclanché (ARNDT, WALTER, and ZENDER), B., 81. lamellar, electrolytic coppering of outer face of carbon electrode of (ČESKÁ ZBROJOVKA AKC. SPOL. V. PRAZE), (P.), B., 850. primary (Barber), A., 642. manufacture of (MARTUS and BECKER; HAZLEHURST), (P.), primary and secondary (Cellino), (P.), B., 117*. electrolyte for (Cellino), (P.), B., 492. selenium, polarisation in (RANKINE and AVERY), B., 492. short-circuited, for organic reductions (Brockman), A., 523. standard, with low potential (Vosburgh), A., 1033. Weston standard, electrode equilibrium in (Vosburgh), A., 209-thermosensitive (Zierdt and Union Switch & Signal Co.), (P.), B., 820. Cell or Cells, photo-electric (Tucker), A., 1035. containing glycerol (GRUMBACH), A., 630. selenium (FONGROVE MACHINERY Co. and GROVER), (P.), B., Cell or Cells, physiological, structure of membranes of (S. and E. B. H. MUDD), A., 892. respiration of (v. SZENT-GYÖRGYI), A., 381, 384. chemical nature of substances which stimulate multiplication of (Carrel and Baker), A., 170. uptake of basic and acidic substances in (ZIFF), A., 989. extraction of juices from (ETABL. BYLA), (P.), B., 500. mierurgical studies in physiology of (REZNIKOFF and CHAMBERS; CHAMBERS and POLLACK), A., 696. living, permeability of (Brooks), A., 1109. kinetics of swelling of (Northrop), A., 1108. colloidal properties of surface of (McClendon), A., 1213. nitrogen fixation by (Burk), A., 488. oxidation in (Oparin), A., 479. See also Plant cells. Cellobiose, formation of (Friese and Hess), A., 861. fermentation of (Koser), A., 280. $6-\beta$ -Cellobiosido- β -a-glucose, and its hendecancetate and osazone (HELFERICH and SCHÄFER), A., 136. Celluloid, production of masses like (I. G. Farbenind, and Chem. Fabr. Griesheim-Elektron), (P.), B., 552; (I. G. Farbenind.), (P.), B., 599. Cellulose (HESS and PICHLMAYR; HESS and FRIESE; HESS, MICHEEL, and REICH), A., 44; (HESS and SCHULTZE), A., 753, S61; (HESS and MÜLLER; HESS and KATONA; FRIESE and HESS), A., S61; (HESS and LÜDTKE), A., 960; (HESS and MICHEEL), A., 1058. constitution of (SCHULTZE and HESS), A., 44; (PRINGSHEIM), A., 231. pure, extraction of, from bagasse of sugar cane (VALET), (P.), B., 552, 839* manufacture of (WALKER), (P.), B., 361. by the chlorine process (MUTTI and VENTURI), B., 904. production of, from peat (RUNKEL), (P.), B., 9. from straw, esparto, and reed (RINMAN), (P.), B., 873. recovery of ammonia from cuprammonium precipitation baths for ("CUPRAM" A.-G.), (P.), B., 964. treatment of (OLSEN and AARONSON), (P.), B., 580.

production of sheets of (FEITH, ZIEGLER, and PATTEN), (P.),

production of foils, skins, bands, etc. from (WOLFF & Co.,

CZAPEK, and WEINGAND), (P.), B., 745.

B., 165.

Cell or Cells, electrochemical, with diffusion anodes (BAILLOD), A.,

Cellulose, improving the spinning properties of solutions of (Chem. Cellulose, sulphite-, chemistry of digestion process for (Hagglund FABR. POTT & Co.), (P.), B., 963. sols and gels, optical properties of (FAUST), A., 110. behaviour of, on heating (BAIN, MUSGRAVE, KAY, CHUTE, and ROWLAND), B., 699. resistance of, to heat, and its adsorptive power for gases (Costa), B., 137. amphoteric nature of (OMAN), A., 1058. viscosity of solutions of (Genung), B., 387. depolymerisation and hydrolysis of (KLEIN), A., 513. dispersion of (v. Weimarn), A., 410, 624; (Steingroever), A., inorganic solvents for (Wennstrom), B., 962. dispergation of, in solutions of alkali and alkaline-earth halides (v. Weimarn and Hori; v. Weimarn and Juna; v. Weimarn and Katoka; v. Weimarn and Yoneda), A., 824. adsorptive properties of (TAMIYA and ISHIUCHI), A., 822. crystals, separation of, from bast fibres (HESS and SCHULTZE), precipitation of (Heberlein), (P.), B., 296, 474*. acetolysis of (HESS and FRIESE), A., 44; (FRIESE and HESS), A., 861; (HESS and MICHEEL), A., 1058. bleaching of. See under Bleaching. esterification of (COURTAULDS and DIAMOND), (P.), B., 473. fermentation of (LANGWELL), (P.), B., 761*. mercerisation of (Henzog), A., 342. nitration of, in presence of phosphoric acid (KRAUZ and ВLЕСНТА), В., 137. oxidation of, on exposure to light (Scharvin and Pakschwer), B., 837. comparison of polyoxymethylenes with (Staudinger, Johner, Signer, Mie, and Hengstenberg), A., 648. action of sodium hydroxide on (Opén and Lindberg), B., 405; (WAENTIG), B., 773. and its derivatives, complex compounds of, in ammoniacal copper solutions (MESSMER), A., 619. manufacture of artificial materials from (LILIENFELD), (P.), B., 964*. manufacture of compounds of (LILIENFELD), (P.), B., 964*. and its derivatives, manufacture of hollow articles from (WOLFF & Co., CZAPEK, and BAUER), (P.), B., 963. non-inflammable composition from (LINDSAY and CELLULOID Co.), (P.), B., 675. in paper and artificial silk industries (RAIMONDO), B., 871. combination of rubber and (OGDEN), (P.), B., 248, 599*. manufacture of sulphate pulp from (KIPPER), (P.), B., 519. decomposition of, in fresh sewage solids (Heukelekian), B., 766. decomposition of, in soils (VINOGRADSKI), B., 294. digestion of, in ruminants (WOODMAN), A., 897. determination of the copper number of (CLIBBENS and GEAKE), B., 551; (GRAY and STAND), B., 598. determination of, by saccharification (KIESEL and SEMI-GANOVSKY), B., 405. determination of, in human faces, and its digestion in food (Конмото and Sakaouchi), A., 169. determination of, in paper (HALSE), B., 8. determination of wood gum in (Bubeck), B., 838. Cellulose, alkali (Heuser and Bartuner), B., 40; (Heuser), B., 294. Röntgen-ray spectrum of (KATZ), A., 309. drying of (SEEL and EASTMAN KODAK Co.), (P.), B., 774. ripening of (KRÜGER), B., 164; (SOIE DE CHATILLON), (P.), B., 473. oxidation of, by gaseous oxygen (Weltzien and zum Tobel), B., 962. cotton, specific volume of (DAVIDSON), A., 615. viscosity of cuprammonium solutions of (HAHN and BRADsiiaw), B., 69. action of chromic acid on (HIBBERT and HASSAN), B., 904. action of sodium hydroxide on (Ermen and Jenkins), B., 103; (CLIBBENS, GEAKE, and RIDGE), B., 870.

fibrous, manufacture of (MACDONALD), B., 649. groundwood, freeness of pulp of (Davis), B., 247.

(RINMAN), (P.), B., 746*.

ramie, X-ray structure of (SPONSLER and DORE), B., 934.

manufacture of (ROUTALA and JÄÄTTELÄ), B., 40.

sulphite-, boiling of (Hönic and Fucus), B., 405.

soda, dry-distillation of waste liquor from manufacture of

sulphate-, adsorption of malodorous substances formed in

and Johnson), B., 871. cooling of relief gas from digesters of (RICHTER and BROWN Co.), (P.), B., 215.
relation of fluorescence to reddening of (HEGGLUND and Johnson), B., 871. freeness of pulp of (DAVIS), B., 247. pulp from, high in cellulose (RICHTER and BROWN Co.), (P.), B., 104. relative value of autumn and spring wood for pulp of (Hägg-LUND and JOHNSON), B., 164. use of, in tanning (WALLACE and BOWKER), B., 534. evaporation of waste liquor from (BADGER), B., 627. colloid-chemical investigation of lye from (SAMEC and Ribarić), B., 963. utilisation of waste lyes of (SCHWALBE), (P.), B., 185*; (Görbing), B., 919. manufacture of non-hygroscopic powders from waste liquors of (I. G. FARBENIND. and A. G. FÜR ANILIN-FABR.), (P.), determination of water in pulp from (SCHLUMBERGER), B., 184, 213. wood, fluorescence of (GERNGROSS, BAN, SANDOR, and TSOU), B., 137. hydrolysis number determinations for (HAWLEY and FLECK), B., 598. Cellulose factories, recovery of condensed water in (Escourrou). B., 276. fibres or filaments, delustring of (Borzykowski), (P.), B., 904. industry, recent developments in (Fox and Hall), B., 648. materials, production of (LYMN), (P.), B., 328. Assoc.), (P.), B., 747; (ARNOLD PRINT WORKS), (P.), B., 873; (Kershaw, Barrett, and Bleachers' Assoc.), (P.), B., 935. improvement of (DE Wolf), (P.), B., 70. alteration of viscosity of (Bassett), (P.), B., 362. influence of plasticising on mechanical-elastic properties of (MANFRED and OBRIST), B., 838. decomposition of (MEUNIER), (P.), B., 295. pulping of (RICHTER and BROWN Co.), (P.), B., 104. fermentation of (LANGWELL, RICARD, and BURTON), (P.), B., 613. resembling wool, manufacture of (HARRISON), (P.), B., 473. products, manufacture of (DREYFUS), (P.), B., 71*; (CLARK and CLARK FIBRE PRODUCTS CORP.), (P.), B., 296. reduction of swelling capacity of (Hebler), (P.), B., 811. pulp, effect of boiling on constants of (CHINTSCHIN), B., 519. solutions, manufacture of (Classen), (P.), B., 70. production of film-like bands from (CZAPEK and WEINGAND). (P.), B., 775*. Cellulose acetate, X-ray structure of (JANCKE), A., 715. manufacture of (Levy and SILBERRAD) (P.), B., 296; (Soc. CHIM. DES USINES DU RHÔNE), (P.), B., 811. soluble in acetone (BAYBUTT, FARROW, and EASTMAN KODAK Co.), (P.), B., 774. treatment of acetic acid mother-liquor from (Soc. Chim. des Usines du Rhône), (P.), B., 963. treatment of (FARROW and EASTMAN KODAK Co.), (P.), B., 746. and its products, treatment of (BRITISH CELANESE and ELLIS). (P.), B., 406. stabilisation of (Mork and Lustron Co.), (P.), B., 71. cryoscopic behaviour of (HESS and SCHULTZE), A., 753. saponification of (KITA, SAKURADA, and NAKASHIMA), A., 526. bleaching of. See under Bleaching. dyeing of. See under Dyeing. discharge effects on materials containing (Brit. Dyestuffs CORP. and SMITH), (P.), B., 71. coating articles with (RIDLEY), (P.), B., 296. products from (I. G. FARBENIND.), (P.), B., 296. compositions, non-inflammable (CARROLL and EASTMAN KODAK Co.), (P.), B., 873. films of low inflammability (CARROLL and EASTMAN KODAK Co.), (P.), B., 675. yarns, relustring of (CLAVEL), (P.), B., 473. identification of dyes on (Кечwоктн), В., 932. benzoate (Atsuki and Shimoyama), B., 70. carboxylic esters, manufacture of (NIGHTINGALE and KETOID Co.), (P.), B., 59.

Cellulose compositions (DAVIDSON and CARBIDE & CARBON CHEMICALS CORP.; LINDSAY and CELLULOID Co.), (P.), B., 214. derivatives, manufacture of (DREYFUS), (P.), B., 247, 248, 774, 872; (COURTAULDS, LTD., GLOVER, and DIAMOND), (P.), B.,

solubility of (v. Neuenstein), B., 327.

production of thin films of (EICHENGRÜN), (P.), B., 165.

production of moulded shapes from mixtures of albuminous substances with (SCHMIDT), (P.), B., 328.

production of plastic masses from (PATHÉ CINÉMA), (P.), B.,

esters, manufacture of (TEUPEL), (P.), B., 388.

reducing viscosity of (Shipley and Atlas Powder Co.; SEEL and EASTMAN KODAK Co.), (P.), B., 774.

glycol ethers as solvents for (CARBIDE & CARBON CHEMICALS CORP. and DAVIDSON), (P.), B., 428.

dyeing and printing on fabrics of (I. G. FARBENIND, and

METZGER), (P.), B., 9. compositions of (DREYFUS, MILES, and AMERICAN CELLULOSE & CHEMICAL MANUF. Co.; VAN SCHAAK), (P.), B., 228; (SCHWARTZ and DU PONT DE NEMOURS & Co.), (P.), B., 774. manufacture of materials from (CLAVEL), (P.), B., 599.

manufacture of threads, strips or films from (CLÉMENT, RIVIÈRE, and COURTAULDS, LTD.), (P.), B., 599*.

coating of fibres with (GIRARD and ROUMAZEILLES), (P.), B.,

softening of artificial substances from (Kalle & Co., Schmidt, and Voss), (P.), B., 580.

solutions of, for use as lacquers (Davidson and Carbide and Carbon Chemicals Corp.), (P.), B., 852*.
of aromatic sulphonic acids (Kita, Nakashima, and

SAKURADA), (P.), B., 163.

esters and ethers, purification and stabilisation of (Wolff & Co. and Schulz), (P.), B., 811.

use of dioxan as solvent for (I. G. FARBENIND.), (P.), B., 905. ethers, acylated, manufacture of (GLOVER, VAN WEYENBERGH, and Courtaulds, Ltd.), (P.), B., 139*.

formate, manufacture of, and materials therefrom (FABR. VAN CHEM. PRODUKTEN and HORST), (P.), B., 103.

hydrate, formation of (Herzog), A., 724. treatment of (Cross), (P.), B., 104*. nitrate (nitrocellulose), X-ray diffraction patterns from (Clark), A., 816; (Clark, Aborn, Brugmann, and Davidson), A., 924.

manufacture of, from wood pulp (Planchon), (P.), B., 798*. manufacture of films of (WILSON and DURATEX CORP.), B.,

preparation of solutions of, of low viscosity (Reitstötter), A., 510.

stability of (Metz), B., 29.

viscosity of (Merz), B., 810. reducing the viscosity of (KOVACHE), B., 716; (SHIPLEY and ATLAS POWDER Co.; PITMAN, and DU PONT DE NEMOURS & Co.), (P.), B., 774.

viscosity and molecular complexity of (YAMAGA), A., 109. viscosity of, in mixtures of butyl acetate, ethyl acetate, ethyl alcohol, and benzene (Cochrane and Leeper), A., 508.

gelatinisation of, in nitro-compound powders (Parodi-Delfino), (P.), B., 204*.

acceleration of (MORAN and DU PONT DE NEMOURS & Co.),

(P.), B., 894. effect of thinners on consistency of solutions of (Marling and

Purdy), B., 822. solvents for, and their dilution ratios (Brown and Bogin;

DAVIDSON and REID), B., 822. effect of organic bases in plasticised films of (Steele), B., 599.

for lacquers (v. MÜHLENDAHL and SCHULZ), B., 635.

treatment of, to render safe during storage or transport (I. G. FARBENIND. and FARBW. VORM. MEISTER, LUCIUS, & Bruning), (P.), B., 905.

xanthate, production of objects from (PINEL), (P.), B., 580. α-Cellulose, determination of (WAENTIG), B., 8.

Cement or Cements (Lukens and Silidifier Corp.), (P.), B., 110. manufacture of (GIROUARD), (P.), B., 45; (RIGHY), (P.), B., 76, 678*; (LINDEMANN), (P.), B., 190; (CADRE), (P.), B., 221; (KERN), (P.), B., 367; (I. G. FARBENIND.), (P.), B., 524; (Chatagnier), (P.), B., 603; (Eckel), (P.), B., 604; (Soc. Anon. des Chaux et Ciments de Lafarge et du TEIL), (P.), B., 702; (Soc. des Ciments Franc. & Bureau D'ORGANISATION ÉCONOMIQUE), (P.), B., 966.

Cement or Cements, manufacture of, preparation of raw materials for (LANHOFFER), (P.), B., 141; (FASTING and SMIDTH & Co.; Vogel-Jorgensen and Smidth & Co.), (P.), B., 678*. treatment of mix for (Hornsey and Granular Iron Co.), (P.), B., 77.

kilns for (MARTIN), (P.), B., 815.

refractory linings for (MARTIN), B., 723.

in the blast furnace (Hochofenwerk Lübeck Abt. Rolandsнётте), (Р.), В., 605.

from phosphate residues (I. G. FARBENIND.), (P.), B., 367.

from slags (MICHELSEN), (P.), B., 558. mixed with gypsum (PONTOPPIDAN and BUNTZEN), (P.), B., 13.

impervious to water (CIMENT PORTLAND ARTIFICIEL DE PONT-À-VENDIN), (P.), B., 966.

colloidal theory of (MAEDA), B., 602.

rotatory tubular kilns for treatment of (Bouzin), (P.), B., 333. burning of (STEHMANN), (P.), B., 190; (KÜHL; BÜTTNER), (P.), B., 333; (HEYL), (P.), B., 412*; (FASTING), (P.), B., 443.

kilns for (RICHARZ), B., 190; (NASKE), (P.), B., 334*. calcining and clinkering of materials for (PIKE), (P.), B., 77. grinding of, in ball or tube mills (SMIDTH & Co.), (P.), B., 141. ageing of (Fuller), (P.), B., 77.

colouring of (DE Ros and BARTON), (P.), B., 484; (BRIT. DYESTUFFS CORP., BADDILEY, SHEPHERDSON, and DAVID-

son), (P.), B., 655. painting of (GARDNER), B., 451.

rendering of, impervious to reagents (ITIER), (P.), B., 190. influence of aluminium and zinc on (Platzmann), B., 908. action of potash end-liquors on (CALAME), B., 412. paper bag containers for (MITTELBADISOHE PAPIER-MANUF.,

ERNST, and LUH), (P.), B., 878.

production of porous articles from (Schenck), (P.), B., 367. for articles made from artificial resins (TRAUN & SOHNE), (P.), B., 197.

suitable for linoleum, manufacture of (Craven, Bedford, and YORKSHIRE DYEWARE & CHEMICAL Co.), (P.), B., 756. clinker, utilisation of heat from (SPEED and LOUISVILLE CEMENT

Co.), (P.), B., 77. compositions (Christiansen), (P.), B., 254; (Lindstrom), (P.), B., 603; (Garrow), (P.), B., 939.

concrete, manufacture of (KNIPE), (P.), B., 334. industry, use of fluorspar in (BECKER), B., 908. pastes, consistence of (DAVEY), B., 13.

powders, acid-proof, manufacture of (I. G. FARBENIND.), (P.), B., 678.

slurry, apparatus for preheating (Polysius Eisengiesserei & Maschinenfabr.), (P.), B., 333. analysis of (Gallo), B., 790.

Cement or Cements, acid-proof, manufacture of (I. G. FARRENIND. and Farbw. vorm. Meister, Lucius, & Brüning), (P.), B., 333; (Schmelzbasalt-A.-G. and Trenzen), (P.), B., 412. aluminous, manufacture of (Voisin), (P.), B., 141, 484;

(HERTZKA), (P.), B., 254. sintered, from Hungarian bauxite (VARGA), B., 908. dental (S. S. White Dental Manufacturing Co. and Eberly),

(P.), B., 76. physical chemistry of (CROWELL), B., 955.

fibrous, enamelling of articles of (Soc. Co-op. Emo), (P.), B., 790. fused, manufacture of (Polysius), (P.), B., 221; (British Portland Cement Manufrs., Baxter, Bamber, and Dickinson), (P.), B., 815; (Kyber), (P.), B., 877, 909; (Studienges. für Nutzbarmachung Schweizerischer ERZLAGERSTÄTTEN), (P.), B., 909.

hydraulic, manufacture of (Spackman), (P.), B., 367, 843*; (GERLACH), (P.), B., 444; (DE LAMBERT and ZUCCO), (P.), B., 524; (FORSÉN), (P.), B., 909.

unsintered, production of (REKORD-ZEMENT-IND. GES. and TETENS), (P.), B., 966.

magnesite (AGERUP), (P.), B., 723.

magnesium oxide (FEITKNECHT), B., 300.

magnesium oxychloride, manufacture of (McCaughey and CLEVELAND TRUST Co.), (P.), B., 603.

aqueous vapour pressure of, and its hardening (MAEDA), B., 366.

plastic (Stewart), B., 878. pitch (Continentale Prodorit A.-G.), (P.), B., 254. porous, manufacture of (RICE) (P.), B., 142. Portland (HAWKES), B., 253.

Cement or Cements, Portland, manufacture of (Kirk), B., 13; (PONTOPPIDAN), (P.), B., 254*. petrographic study of (GILLSON and WARREN), B., 750.

calcining of, in rotating kilns (H., R., and I. DORMANN), (P.), B., 966.

pigments for colouring (FOSTER), B., 787.

crystal measurement of various compounds with reference to (Harrington), A., 715.

combination of lime in compounds of (HANSEN and BOGUE),

rapid-setting, manufacture of (Soc. Anon. Cilor), (P.), B., 816. refractory neutral (Rochow and Harbison-Walker Refrac-TORIES Co.), (P.), B., 76.

slag, manufacture of (HARDING, CASPARIS, and STEPHENSON), (P.), B., 723.

waterproof (ILLEMAN), (P.), B., 166. for fabrics (AMEN), (P.), B., 9.

Cementation in the ground (BLANDFORD, GEE, and POTTS), (P.), B., 110.

Cementite, heat of formation of (BRODIE, JENNINGS, and HAYES), B., 14.

density of (ISHIGAKI), A., 718.

solution of, in α-iron, and its precipitation (Whiteley), B.,

Cementitious material, production of (HILLS), (P.), B., 333; (SPACKMAN), (P.), B., 843*.

Cenospheres (Newall and Sinnatt), B., 242.

Centrifugal apparatus (GRIMBLE, CAIRD, and COOMBES), (P.),

for treating gases with liquids (Theisen and Theisen), (P.), B., 736.

for purification of oil (AKTIEBOLAGET SEPARATOR and MILLER), (P.), B., 961.

machines (Thomsen and Koefoed, Hauberg, Marstrand, & Helweg, Aktieselskabet Titan), (P.), B., 33*; (ROBERTS and WESTERN STATES MACHINE Co.), (P.), B., 465; (Sharples Specialty Co.), (P.), B., 545; (Jones, Ayres, and Sharples Specialty Co.), (P.), B., 545*; (SANSARICO; PARKER; EMPSON CENTRIFUGALS, and ALEX-ANDER), (P.), B., 639.

for continuous separation of liquids from solids (Behr), (P.), B., 959.

Centrophorus granulosus, oil of (CHAPMAN), B., 945.

Cephceline, constitution of (SPATH and LEITHE), A., 471.

Ceramics, annealing of (Besta), (P.), B., 544.

burning of (Koppers Co. and Koppers Development Corp.),
(P.), B., 524*.

scumming and efflorescence in (Collin), B., 253.

hydrogen-ion control in (TAYLOR), B., 442.

Ceramic articles, manufacture of, from sillimanite material (Booze and Norton Co.), (P.), B., 557.

blue-glazed, resembling Egyptian ware (Pick), (P.) B., 411. hodies, glazing of (Orqualin-Ges. Nürnberg), (P.), B., 189. coloured (Binns and Wardner), B., 749.

compositions (KRAUS), (P.), B., 557.

masses, production of (Deutsche Ton- & Steinzeug-Werke and Kürten), (P.), B., 842.
materials (Jeffery, Montgomery, and Champion Porcelain Co.), (P.), B., 602.

texture of (McMahon), B., 253.

testing of, for resistance to slag corrosion and erosion (DALE),

plates, finely-perforated, manufacture of, for artificial silk manufacture (Scheid, Toundorf, and Zeiss), (P.), B., 905.

products, preparation of (Vershofen), (P.), B., 443; (Prouty and American Encaustic Tiling Co.), (P.), B., 524. ware, manufacture of (QUARTZ & SILICE), (P.), B., 602.

Cerbera odollam, oil from seeds of (GHANEKAR and AYYAR), B.,

Cereals, heat treatment of (CHITTY, KENT-JONES, and WOODLANDS, Ltd.), (P.), B., 203, 763*.

biochemistry of rust diseases of (Bodnár, Villanyi, and TERÉNYI), A., 600.

vitamin-B in various (PLIMMER, ROSEDALE, RAYMOND, and LOWNDES), A., 1223.

straw, influence of manuring on the strength of (Stuch), B., 54. wheaten, heat treatment of (HUTCHINSON and WOODLANDS, Ltd.), (P.), B., 615.

determination of carbohydrates in (HARTMANN and HILLIG), B., 90.

Cereal products, flaked, preparation of (HEINZ Co. and HARDING), (P.), B., 58.

Cerebrosides of brain (Klenk), A., 691.

Cerebrospinal fluid, chemical composition of (WILCOX, LYTTLE, and HEARN), A., 372.

presence of acetaldehyde in (Thomas and Martei), A., 1215. carbon dioxide tension in (Shohl and Karelitz), A., 169.

lactic acid content of (WITTGENSTEIN and GAEDERTZ), A., 895. sugar content of blood and (Levinson), A., 1217.

in nephritis (LYTTLE and ROSENBERG), A., 789. sugar in, under influence of syphilis (GLASSMANN, ZWILLING,

and Israilsonn), A., 789. colloidal reactions of (STEIGMANN), A., 411; (SCHMITT), A.,

Lang's gold-sol reaction on (Epstein and Rubinstein), A., 274. detection and determination of oxalates in (GUILLAUMIN), A., 475. determination of magnesium in (COHEN), A., 692

determination of proteins in (Wu and Ling), A., 689. Cerium, Zeeman effect in spectrum of (MARGENAU), A., 1119.

are and spark spectra of (McDonald, Sutton, and McLay; McLennan and Liggett), A., 390. purification of (IMRE), A., 844.

Cerium compounds, pure, production of (DEUTSCHE GASGLÜHLICHT AUER-GES.), (P.), B., 188.

Ceric hydroxide sols, viscosity and gel formation of (Chakravarti, Ghosh, and Dhar), A., 934.

Cerous sodium sulphates (Zambonini and Restaino), A., 949.

Cerium organic compounds :-

with oxalic acid (Dede and Faber), A., 855. Cerous nitrate, double salt of cocaine and (PACE), A., 265.

Cerium determination :-

determination of (LINDEMAN and HAFSTAD), A., 536; (LESSNIG), A., 746.

Chalcedons, constitution of (Longchambon), A., 38.

Chalk, apparatus for pulverising, and other materials (DE Guillebon and Normand), (P.), B., 199. bituminous, distillation of (HASSEL), B., 161.

See also Calcium carbonate.

Chalkones. See Phenyl styryl ketones.

Chamacyparis nootkalensis, essential oil content of (CLARK and LUCAS), B., 506.

Champagne, control of preparation of (MANCEAU), B., 235. Charcoal, treatment of (RÜTGERSWERKE AKT.-GES. and KARL),

(P.), B., 244. reactivation of (Algem. Norit Maats.), (P.), B., 467.

adsorption by (MILLER and BANDEMER; PARKS and BARTLETT),

in relation to surface area (TARLÉ; SAMESHIMA), A., 1135. of gases (Sameshima), A., 304; (Ruff and Roesner; Ruff), A., 305.

of aliphatic alcohols (GARNER, McKIE, and KNIGHT), A., 617. of easium and rubidium halides (SCHILOV and TSCHEPELEvетsкі), A., 929.

of carotin (Willimott), A., 820.

of enzymes (Przylecki, Niedzviedzka, and Majevski), A., 1113.

of mercury vapour (Coolidge), A., 928. of metallic complexes (Nekrassov), A., 106.

of water vapour (Coolinge), A., 406.

heat of adsorption of (GREGG), A., 820. heats of adsorption of gases by (KEYES and MARSHALL), A., 207. heat of adsorption of oxygen on (GARNER and McKIE), A., 1134. expansion of, on adsorption of carbon dioxide (Meeilan), A., 722.

hydrolytic adsorption by spongy platinum and (Frumkin and Donde), A., 1021.

catalytic oxidation on surfaces of (WRIGHT), A., 1039.

low-temperature oxidation with (RIDEAL and WRIGHT), A., 118. oxidation of, with sulphuric acid (Philippi, Seka, Sedlatschek, SCHMIDT, and SEKORA), A., 944.

active (Swiderek), A., 198.
manufacture of (I. G. Farbenind.), (P.), B., 292*; (Algem. NORIT MAATSCHAPPIJ; BERL), (P.), B., 210; (Soc. L'Exploit. Proc. Urbain), (P.), B., 555. from apricot kernel shells (Palkin), B., 289.

Charcoal, active, production of, from cacao refuse (TIEDE), (P.), B., 769.

adsorption by (MAZZETTI), B., 34. oxidation of phosphorus vapour from manufacture of (URBAIN), B., 513.

Charcoal, adsorbent, manufacture of (URBAIN), (P.), B., 467. animal (Knowles), B., 638. isoelectric point of (Bohn), A., 106. adsorption of hydrogen and hydroxyl ions by (Bohn), A., 106. catalytic activity of (Podrouzek), B., 95. ash-free, adsorption by (MILLER), A., 929. adsorption of electrolytes by (Kolthoff), A., 1133. blood, catalytic activity of (RIDEAL and WRIGHT), A., 118. active (CHEM. FABR. VORM. SCHERING), (P.), B., 805. bone, spent, heat-treatment of, and of similar materials used in sugar refining (Burroughs), (P.), B., 921. "carboraffin" and "supra-norit," adsorption of ions by, from sugar juices (FIŠER), B., 395. decolorising exhausted, reactivation of (Verein Chem. & Met. PROD.), (P.), B., 594. "norit," use of, in concentration of torulin (KINNERSLEY and Peters), A., 904. wood, activation of, in relation to density and iodine adsorption (PAGE), A., 842. See also Carbon. Chaulmoogra oil (HASHIMOTO), A., 541; (PERKINS, CRUZ, and Reyes), B., 754. Chaulmoogric acid, compounds similar to (PERKINS and CRUZ), A., 359. esters of (HERRERA-BATTEKE and WEST), A., 55. derivatives of (Herrera-Batteke), A., 458. dl-Chaulmoogric acid (PERKINS and CRUZ), A., 541. Chebulic acid (Freudenberg and Frank), A., 464. Cheese, manufacture of (Fouassier), (P.), B., 457. improvement of milk for (Armitage), (P.), B., 26. freezing point of (Watson and Leighton), B., 954. pasteurisation of (ELDREDGE), (P.), B., 123. movement of substances through, and theory of salting-down (YEGUNOV), B., 712. relation between fat content of milk and (Goy), B., 455. method of cooking (C. and H. H. DOERING), (P.), B., 503. long-keeping, preparation of (L'Auvergne Laitière), (P.), B., processed, manufacture of (ELDREDGE and PABST CORP.), (P.), B., 795. Chelura terebrans, absence of cellulose in (Yonge), A., 691 Chemicals, volatile, separation of, from water (LUMMUS), (P.), B., Chemical constants, transformation of (Wertheimer), A., 102. of diatomic molecules (v. Wišniewski), A., 922. constitution. See under Constitution. reactions. Sec under Reactions. theory, ancient, in modern principles (VAN DEVENTER), A., 1164. transformation, mechanism of (Lowry), A., 131. Chemiluminescence in gases (Kondratéev), A., 1124. Chemotherapy (Coplans and Green), A., 172, 1220. Chenodeoxycholic acid (WINDAUS and VAN SOHOOR), A., 56. Chenopodium oil from Mauritius (IMPERIAL INSTITUTE), B., 618. Chestnut. Sco Castanea vesca. Chickens, fat-soluble vitamin requirements of (PLIMMER, ROSE-DALE, and RAYMOND), A., 904 Chicory, manuring of (NUDING), B., 343. China wood oil. See Tung oil. Chitin, colloidal solutions of (v. Weimarn), B., 136. from fungi (Dous and Ziegenspeck), A., 383. Chloral, action of aluminium ethoxide on (Dworzak), A., 42. condensation of, with p-hydroxybenzoic acid (Chattaway and Prats), A., 458. with phenol (CHATTAWAY and MORRIS), A., 967. hydrate, compound of caffeine hydrate and (Oliveri-Man-DALÀ), A., 303. condensation of, with malic and d-tartaric acids (Yorston), Chloramine-T, oxidising action of (SCHIEMANN), A., 1061. Chloramine-yellow, isomeride of (Bogert and Allen), A., 680. Chloranil, formation of, from aromatic compounds (Denis), A., manufacture of (HOLLIDAY & Co. and Shaw), (P.), B., 742. toxic substance in, with action on liver (STAUB), A., 73. Chlorination of solutions (MACMAHON and MATHIESON ALKALI Works), (P.), B., 166, 522. Chlorine, atomic weight of (ZINTL and GOUBEAU; HÖNIGSCHMID, CHAN and BIRCKENBACH), A., 806. in potassium salts of Alsace (GLEDITSCH), A., 493. action of, on carbohydrates (Colin and Ruppol), A., 1173.

production of (Mehner), (P.), B., 876.

Chlorine, production of aluminium chloride and (Wolcott and Texas Co.), (P.), B., 140. recovery of (GUYER, TAYLOR, and MATHIESON ALKALI WORKS), (P.), B., 218. spectrum of (Asagoe), A., 2; (DE BRUIN), A., 490. dry, absorption spectrum of (Kornfeld and Steiner), A., 1122. Röntgen-ray absorption spectrum of (AOYAMA, KIMURA, and NISHINA), A., 999. are spectrum of (DE BRUIN), A., 82. are spectra of metals in (MIYANISHI), A., 910, 998. line spectra of isotopes of (Jenkins), A., 179. action of light on (KISTIAKOVSKY), A., 1040. actinic absorption of (TAYLOR; TAYLOR and ELLIOTT), A., 216. fluorescence of (L. and E. Bloch), A., 396. photochemical reaction between hydrogen, oxygen, and (CREMER), A., 947. liquid, molecular-weight determination and solubilities in (BUTLER and MoIntosh), A., 828. viscosity of (van Aubel), A., 507. evaporation of (MacMahon and Mathieson Alkali Works), (P.), B., 166. solutions of (ORNSTEIN), (P.), B., 440. explosion risks in use of, for bleach liquor (KIRMREUTHER and Purrmann), B., 936. free energy of (KAMEYAMA, YAMAMOTO, and OKA), A., 519. effect of free oxygen on the reaction of carbon monoxide with (SCHUMACHER), A., 1147. activity of (KAMEYAMA, YAMAMOTO, and OKA), A., 419. active preparations of (PUTT), (P.), B., 218. action of, on raw vegetable fibrous material (Wenzl), B., 69, 292; (Waentig), B., 292. isotopes of, in urine (AMBARD and CHRÉTIEN), A., 169. Chlorine acids, detection of, in presence of bromine and iodine acids (Chamot and Mason), A., 744. Hydrochloric acid, preparation of, from alkali chlorides (UEBEL), (P.), B., 480. production of magnesia and (VEREIN FÜR CHEM. & MET. Prod.), (P.), B., 364, 480; (CHEM. FABR. WOLKRAMS-HAUSEN and HELBIG), (P.), B., 480. photochemical formation of (THON), A., 323 action of water vapour in photosynthesis of (Lewis), A., 1040. distillation of (DREFAHL and GRASSELLI CHEMICAL Co.), (P.), B., 521. refractive index and surface tension of cobalt chloride and (Howell), A., 1136. absorption spectrum of (Bourgin), A., 710; (Bourgin and Kemble), A., 1122. rotation spectrum of (BADGER), A., 808. electrolytic dissociation of, in methyl alcohol (Biswas and Bose), A., 422; (Hlasko and Kamienski), A., 625. ionisation in vapour of (Barton), A., 188. cross-sectional curve of, for slow electrons (Brüche), A., 181. electrical conductivity of mixtures of phosphoric acid with (KAILAN and SCHROTH), A., 23. activity coefficients of dilute solutions of (Nonhebel), A., 21. activity coefficient of, in aqueous alcohol (Scatchard), A., in solutions with water and barium and lanthanum chlorides (Randall and Breckenridge), A., 729. effect of a magnetic field on dielectric constant of (Mott-SMITH and DAILY), A., 92. heat capacity of the constituents and specific heat of aqueous solutions of (Randall and Ramage), A., 208. boiling point of, in presence of a third substance (MAZZUC-CHELLI and FATTA), A., 1140. solutions of, of constant boiling point (Bonner and Branting), A., 104. partition of, between water and benzene (KNIGHT and HINSHELWOOD), A., 304. density and viscosity of aqueous solutions of (Howell), A., 205. diffusion-potential measurements of systems of gelatin and (Ferguson and Bacon), A., 935. equilibrium of calcium fluoride with (Auméras), A., 1141. equilibrium of calcium oxalate with (Auméras), A., 312. equilibria of, with water and aluminium and potassium chlorides (MALQUORI), A., 628. rate of adsorption of, in aqueous solutions (Askew), B., 813.

on methyl alcohol (Carter and Megson), B., 155.

Chlorine :-

Hydrochloric acid, action of, on propylene (Sutherland and Maass), A., 441.

combination of, with metallic chlorides (SCHWARZ and MEYER), A., 1044.

complex formation in (CARTER and MEGSON), A., 1020.

by product, extraction of phosphate rock with (Fox and WHITTAKER), B., 296.

gaseous, action of, on tungsten compounds (SPITZIN and Kaschtanov), A., 33.

standards for, as reagent (RAKOVSKI), A., 534.

free, detection of, by Günzburg's reaction (van Eck), A., 434. separation of, from hydrobromic and hydriodic acids (Longinescu and Badescu), A., 124.

Chlorides, distribution and transportation of, in the atmosphere

(Bordas and Despemmes), A., 1049.

reducing attack of graphite and carbon electrodes used in electrolysis of (Königsberger Zellstoff-Fabr. & Chem. WERKE KOHOLYT and SCHLUMBERGER), (P.), B., 659.

anhydrous, production of (Gohin), (P.), B., 937. inorganic, compounds of nitrosyl chloride with (RHEINBOLDT

and Wasserfuhr), A., 431.

effect of alkalosis on excretion of (Goldblatt), A., 898.

detection of, in complex mixtures of cyanides, ferro- and ferricyanides, thiocyanates, bromides, and iodides (Spiresou),

detection and determination of, in presence of bromides and iodides (Berg), A., 35.

determination of, with adsorption indicators (Kolthoff), Λ., 744.

determination of, in presence of bromides and iodides (Berg), A., 124.

determination of, in blood (WHITEHORN), A., 985.

determination of, in physiological fluids (BOND and HAAG),

separation and determination of mixtures of bromides, iodides, and (CHICK), B., 651.

Chloric acid, determination of, with titanous chloride (BRALLIER), B., 652.

Chlorates, separation of, from perchlorates (Scharrer), A., 124. Perchlorates, densities of aqueous solutions of (MAZZUCCHELLI and Rossi), A., 723.

determination of, colorimetrically (Junek and Küpper), B.,

determination of, colorimetrically, in presence of chlorate

(Fedorova), A., 1159. determination of, in Chili saltpetre (VÜRTHEIM), B., 250;

(FEDOROVA), B., 600. Hypochlorous acid, photochemical decomposition of aqueous solutions of (Allmand, Cunliffe, and Maddison), A., 427.

Hypochlorites, manufacture of (Taylor and Mathieson Alkali WORKS), (P.), B., 252; (MacMullin and Mathieson Alkali Works), (P.), B., 777.

influence of metals and salts on bleaching action of (WENZL),

B., 810. determination of excess of alkali in solutions of (WACHTER),

Chlorine determination:

A., 436.

determination of (HUSBAND and GODDEN), A., 273.

determination of, available in presence of manganese (Hop-KINS), B., 521.

determination of, available in bleaching liquors (HAUSNER), B.,

determination of, microchemically, in blood corpuscles or serum (SMIRK), A., 271.

determination of, in organs and blood (DELAVILLE and BROUN),

determination of, in foods (HUSBAND and GODDEN), B., 397.

Chlorine electrodes. Sec under Electrodes. Chlorine ions, hydratation of (Baborovský and Velíšek), A., 734. Chlorine water, photochemical decomposition of (ALLMAND, CUNLIFFE, and MADDISON), A., 427.

Chloroform, solubility and distribution of, in blood (WINTERSTEIN

and Hirschberg), A., 893.

determination of, by pyridine test (Cole), A., 270. Chlorophyll, absorption of light by solutions of, and by leaves (Lasareff), A., 488.

condition of, in plants (NOACK), A., 595.

reduction of carbon dioxide by solutions of, containing protein (Dolk and van Veen), A., 703.

Chlorophyll, oxygen transmission by (Gaffron), A., 428. lecture experiment on (v. LINGELSHEIM), A., 80.

commercial applications of derivatives of (Schertz), B., 891. detection of, with analytical quartz lamp (DANCKWORTT and Pfau), A., 1101.

Chloropicrin, action of ultra-violet rays on (PIUTTI and MAZZA), A., 1166.

fumigation of foods with (HOYT and ELLENBERGER), B., 376. colour reaction of (SECAREANO), A., 645.

Chlororuthenites. See under Ruthenium.

Chlorosis in plants in relation to ionic equilibria (MAIWALD), B.,

lime-induced, relation of manganese and iron to (GILBERT, McLean, and Hardin), B., 170.

Chlorosulphonic acid, action of, on aromatic amines (Lustic and KATSCHER), A., 867.

on naphthalene (CORBELLINI), A., 551.

on α- and β-naphthylamines (CORBELLINI), A., 1179. on phenols (Pollak and Gebauer-Fülnegg), A., 354.

Chocolate, manufacture of (McKinlay), (P.), B., 858. apparatus for grinding or refining of (Fryer), (P.), B., 858. mixing machines for (HICKLEY and BAKER PERKINS Co.; Sonsthagen), (P.), B., 890.

as source of protein in diet (MITCHELL, BEADLES, and KEITII), A., 170.

milk, preparation of (GRUYÈRE USINES LAITIÈRES), (P.), B., 457. determination of milk fat in (GREENLEAF), B., 827

determination of illipé butter in (BYWATERS, MAGGS, and Pool), B., 614.

Chocolate creams. See under Creams.

Cholane (Wieland, Schlichting, and Jacobi), A., 248.

Cholanic acid, structure of (WIELAND, SCHLICHTING, and JACOBI), A., 247.

Choleic acid, effect of, on protein and purine metabolism of (KARASAWA), A., 899.

Choleic acids (RHEINBOLDT, PIEPER, and ZERVAS), A., 242. Cholesterol (Montionie), A., 969.

from different sources, properties of (Anderson), A., 457. absorption spectrum of, and its connexion with vitamin-D (HEILBRON, KAMM, and MORTON; ROSENHEIM and WEBSTER). A., 381.

photoactivity of (STŘÍTESKÝ), A., 1066.

action of X-rays on (HIEGER), A., 556. effect of irradiation with X- or y-rays on (REINHARD and Buchwald), A., 796.

effect of irradiation on oxidation products of (SCHULTZ, ZIEGLER, and Morse), A., 703.

development of chromogenic properties in, by action of heat (Moore and Willimott), A., 763.

solubility of, in liquid ammonia (GUSTAVSON and GOODMAN), A., 1133.

sols, sensitisation of (STERN), A., 1025.

distillation of, with zinc dust (FANTL and KABOS), A., 53.

transformations of (WINDAUS), A., 557.

as parent of petroleum (Zelinski), B., 865.

phosphorus derivatives of (v. Euler and Bernton), A., 1066. content of, in hair, wool, and feathers (Eckstein), A., 691. relation between bile acids, snake venom, and (YONEMURA and Fujihara), A., 171.

fate of, in the animal organism (Lifschütz), A., 791.

content of, in human plasma (GARDNER and GAINSBOROUGH), A., 270, 271.

irradiated, fractionation of (SHEAR and KRAMER; KRAMER, SHEAR, and SHELLING), A., 282.

antirachitic activity and dielectric constant of solutions of (Ellinger), A., 796.

and its derivatives, antirachitic properties of (Bills and MACDONALD; NITZESCU, POPOVICIU, and DENES-GOETZ), A., 487.

activity and antirachitic value of, and its fractions (JEN-DRASSIK and KEMÉNYFFI; HESS and ANDERSON), A., 1224. antirachitic value of, and its effect on phosphorus and calcium

balance (Hess and Sherman), A., 703. and its derivatives, pharmacology of (Seel), A., 73

ethers, mixed, catalytic formation of (BILLS and McDonald), A., 556.

phosphate and phosphite, and their salts and dibromo-derivative (v. Euler and Bernton), A., 1066. determination of, in blood (HECKSCHER), A., 370.

alloCholesterol (WINDAUS), A., 557.

n- and iso-Cholesterols and their salts (Montionie), A., 556. Cholesterolæmia, alimentary (Lettes), A., 695.
Cholic acid, constitution of, and its decomposition products (Wieland), A., 767; (Borsche), A., 1069. derivatives of (Borsche and Schwarz), A., 1069. complex amine salts of (Soc. CHEM. IND. IN BASLE), (P.), B., Choline, effect of, on the animal organism, and its relation to creatine (Abderhalden and Buadze), A., 696. chloroplatinate (Fränkel and Nussbaum), A., 546. Chondrin (RAKUZIN and BRAUDO), B., 154. Chromanones, formation of, from phenols (v. Auwers, Baum, and Lorenz), A., 670. Chromates. See under Chromium. Chrombacterium violaceum, pigment produced by (Reilly and PYNE), A., 1114. Chrome alum, manufacture of (I. G. FARBENIND.), (P.), B., 43. Chrome yellow, colloid-chemical studies on (Bock), B., 50. Chromiarsenates (Rosenheim and Thon), A., 1156. Chromic acid. See under Chromium. Chromium, pure, preparation of (ADCOCK), B., 444. production of, carbon-free (CROFTS), B., 487. spectrum of (GIBBS and WHITE), A., 177. absorption in under-water spark spectrum of (Smith and Muskat), A., 607. electrochemistry of (GRUBE and BREITINGER), A., 423. passivity of (Müller and Noack), A., 942. electrolytic, crystal structure of (Sillers), A., 502. electro-deposition of (Appel), (P.), B., 256; (Hambuechen and ELECTRO METALLURGICAL Co.), (P.), B., 370; (HARING and BARROWS), B., 606; (SALZER), B., 753; (SIEMENS & HALSKE; HOSENFELD and WALDE), (P.), B., 786; (GEN. MOTORS CORP., PHILLIPS, and STRAUSER), (P.), B., 943. and its alloys (Olausson & Co. Aktieb.), (P.), B., 491, 528*. from chromic acid solutions (Liebreich; Müller), A., 322; (Stscherbakov and Essin), A., 839. on hollow articles (SIEMENS & HALSKE), (P.), B., 256. electroplating with (WÜRKER), (P.), B., 194, 338*; (METALS PROTECTION CORP. and PIERCE), (P.), B., 390, 881*; (METROPOLITAN-VICKERS ELECTRICAL CO. and ALLEY; CHROMIUM CORP. OF AMERICA and FINK), (P.), B., 491; (KILLEFFER), B., 605; (CHROMIUM PRODUCTS CORP. and Hosdowich), (P.), B., 659*; (SIEMENS & HALSKE), (P.), B., 881. anodes for (WATTS), B., 849. machine for (EATON), (P.), B., 848. as resistance to corrosion (Wernick; Carpenter), B., 703. on steel articles (v. WARTENBERG), B., 846. solubility of, in mercury (TAMMANN and HINNÜBER), A., 304. Chromium alloys, coating of ferrous eastings with (JACOBS and ELECTRO METALLURGICAL Co.), (P.), B., 783. with carbon and iron (SAUERWALD, NEUDECKER, and RUDOLPH), A., 517. with iron (Penniman and Shackelford), (P.), B., 338*;

(SHACKELFORD, PENNIMAN, CAIN, and RADIAO METALS), (P.), B., 390; (Saklatwalla), (P.), B., 448. with nickel, manufacture of (DE BATS and DE BATS METALS Co.), (P.), B., 784. crystal structure of (BLAKE and FOCKE), A., 1017. analysis of (HARVEY), B., 879. with nickel and iron, analysis of (HARVEY), B., 879. molecular volumes (KLEMENT), A., 294. son), B., 285 (P.), B., 440.

with nickel and molybdenum (Kelly), (P.), B., 847. Chromium bases :-Halopentamminechromic halides, Chromium compounds, production of (Mathieson Alkali Works), (P.), B., 814. adsorption of, by formaldchyde-tanned hide powder (Gustav-Chromium salts, basic, for tanning, manufacture of (I. G. FAR-BENIND. and FARBW. VORM. MEISTER, LUCIUS, & BRÜNING), complex (DEL CAMPO, MANZANO, and MALLO), A., 951. Chromium antimonide and telluride, crystal structures of (Oftedal), A., 924. carbides, Röntgen-ray structure of (Westgren and Phragmen), A., 297.

chlorides, reaction of magnesium phenyl bromide with (Hein,

oxychloride, absorption spectrum of (VAN HEEL), A., 496.

RESCHKE, and PINTUS), A., 548.

Chromium fluoborates (WILKE-DÖRFURT and BALZ), A., 120. sesquioxide (chromic oxide), equilibrium of reduction of (v. Wartenberg and Aoyama), A., 518. effect of zinc oxide on colouring properties of (PILLAI), B., 410. trioxide, compound of zinc oxide and, as catalyst (Synthetic Ammonia & Nitrates and Smith), (P.), B., 828. oxides, precipitation of (IPATIEV and KISSELEV), A., 739. Chromic chloride, manufacture of, anhydrous and hydrated (I. G. FARBENIND.), (P.), B., 522. crystal structure of (NATTA), A., 611. hexahydrates, miscibility of dilute solutions of (Howard and PATTERSON), A., 15. hydroxide, solubility of, in alkalis (Corey), A., 820. peptisation of (SEN), A., 1025. in presence of arsenious acid, glycerol, and sucrose (Mehrotra and Sen), A., 624. crystalline, separation of, from solutions of its salts (IPATIEV and Mouromtsev), A., 1043. precipitated, adsorption by (SEN), A., 721. Chromic-chromous electrode. See under Electrodes. Chromous chloride as an oxygen adsorbent, addition of zinc to (HARTSHORNE and SPENCER), B., 42. ions, colours of (Someya), A., 432. salts, preparation and oxidation of (Asmanov), A., 326. Chromic acid, velocities of reaction of, with organic acids (DEY and DHAR), A., 116. Chromates, manufacture of (I. G. Farbenind.), (P.), B., 74, 388; (Comp. Gén. Prod. Chim. Louvres and Pipereaut), (P.), B., 299. reactions of, at high temperature (NARGUND and WATSON), A., 326. use of, in colorimetric analysis (JÖRGENSEN), A., 952. Dichromic acid, electrolysis of (Forbes and Leighton), A., 25. Dichromates, production of, from chromate ores (Porov), B., determination of, electrometrically, with potassium ferroeyanide (Someya), A., 224. Chromium sulphide, action of high temperatures on (Picon), A., Chromium organic compounds, relationship between complexconstitution and formation of (HEIN, RESCHKE, and PINTUS), Chromium carbonyl (JoB and CASSAL), A., 865, 1044. Chromium detection, determination, and separation :detection of, by oxidation (Posner), A., 37, 953. determination of (Kranjčević and Rukonić), A., 746. determination of, as chromate, volumetrically (LE GUYON), A., 537. determination of, gravimetrically (PUMM), B., 480. determination of, oxidimetrically (Someya), A., 333. determination of, in chrome pigments (Hickson), B., 585. determination of, in presence of iron (ZINTL and ZAIMIS), B., separation of, from alloys (Wenger and Rogovine), A., 333. separation of, from tungsten, molybdenum, and vanadium (CREMER and FETKENHEUER), B., 704. Chromium ores, extraction of (ZAHN & Co. BAU CHEM. FABR., and WIEKOP), (P.), B., 491. Chromium steel. See Steel under Iron. Chromolithographic transfers (COURMONT), (P.), B., 305. Chromophotographs. See under Photographs. Chromosomes (Kuwada and Sakumura), A., 1103. Chromosphere of the sun, Fraunhofer's lines in (Unsöld), A., 1906. Chromospheric spectrum, cobalt and nickel multiplets in (DAVIDson and Stratton), A., 1118. Chrysene, formation of, from cholesterol (DIELS and GADKE), A., Chrysofluorenyl halides (VANSCHEIDT), A., 234. Chrysofluorenyldi-a-naphthofluorenyl (VANSCHEIDT), A., 140. Cicad larvæ, glucosamine compounds from (Komori), A., 372.

Cichorium endivia and intybus, constituents of latex of (Zellner),

Ciloxanic acid, and its derivatives (Borsche and Frank), A., 772.

Cinchona alkaloids, manufacture of derivatives of (Boehringer

Cinchonidine bromocyanide, and cyano-, and its hydrochloride

(Boehringer & Soehne, Rothmann, and Hilcken), (P.), B.,

Cilianie acid, constitution of (Borsche and Frank), A., 459.

& SOEHNE, ROTHMANN and HILCKEN), (P.), B., 828.

828.

Cinchophen. See 2-Phenylquinoline-4-carboxylic acid. Cincole, catalytic action of Japanese acid carth on (Ono and MIYAZAKI), A., 883.

determination of (Cocking), B., 571.

Cinnamaldehyde cyclohexylhydrazone, and its hydrochloride (Busch and Linsenmeier), A., 455.

hydrazones (v. Auwers and Heimke), A., 1203.

phenylcyclohexylhydrazone (Busch and Haase), A., 554.

Cinnamaldoxime, w-chloro- (RHEINBOLDT, DEWALD, JANSEN, and SCHMITZ-DUMONT), A., 245.

Cinnamic acid, kinetics of addition of bromine to (Berthoup and BÉRANECK), A., 528.

oxidation of (Rosenthaler), A., 560.

sulphonation of (Moore and Tucker), A., 242.

action of ethyl and tert. butyl hypochlorites on (Jackson and PASIUT), A., 969.

condensation of, with pyrogallol and resorcinol (Ellison), A.,

sodium salt, catalytic hydrogenation of (Sabalitschka and Moser), A., 427.

and p-chloro-, esters of (SKRAUP and BENG), A., 560.

and p-nitro-, aryl esters of, and their thermal decomposition (Anschütz), A., 750.

Cinnamic acid, o-amino-, manufacture of (I. G. FARBENIND.), (P.), B., 974.

amino- and nitro-, menthyl esters and their derivatives (Mc-Cluskey and Sher), A., 363.

o-nitro-, cyclohexyl ester (Hückel and Stepf), A., 572.

Cinnamoyl chloride, reaction between magnesium, carbon dioxide, and (GILMAN and HARRIS), A., 874.

Cinnamoylacetanilide (Benary and Kerckhoff), A., 45.

Cinnamoylacetoacetic acid, ethyl ester, copper derivative (Borsche and Peter), A., 571.

Cinnamoylacetone dibromide, and bromo (Borsche and Peter), A., 571.

Cinnamoylacetophenone dibromide (Borsche and Peter), A., 571. Cinnamoyl-d-arginine, 2-amino-, acetyl derivative (Bergmann and Köster), A., 755.

Cinnamoylbenzoylacetic acid, ethyl ester, copper derivative (Borsche and Peter), A., 571.

a-Cinnamoylcrotonanilide, β-amino- (Benary and Kerckhoff),

Cinnamoylformic acid, derivatives of (Bodforss), A., 775. Cinnamoylpyruvic acid, ethyl ester, derivatives of (Borsche and

PETER), A., 570.

N-Cinnamoylserine, a-amino-, acetyl derivative (BERGMANN and MIEKELEY), A., 1202.

Cinnam-β-phenylethylamide (v. Braun and Münch), A., 345. alloCinnamyl azide and chloride (Jones and Mason), A., 1185. Cinnamylalanine, a-amino-, benzoyl derivative, and its ethyl ester (Gränacher and Mahler), A., 468.

Cinnamylaminoacetic acid, a-amino-, benzoyl derivative, and its

ethyl ester (GRÄNACHER and MAHLER), A., 467.

Cinnamylaniline, and its salts and nitroso-derivative (v. Braun and TAUBER), A., 1179.

Cinnamylglycine, a-amino-, acetyl derivative, and its ethyl ester (GRÄNACHER and MAHLER), A., 467.

Cinnamylidene thiosemicarbazone (Bose and Chaudhury), A., alloCinnamylideneacetic acid, transformation of (GHOSH and

MITRA), A., 560. γ-Cinnamylideneacetoacetic acid, methyl ester, and its copper

derivative (Borsche, Rosenthal, and Meyer), A., 664. a-Cinnamylideneacetylacetoacetic acid, methyl ester, and its copper

derivatives (Borsche, Rosenthal, and Meyer), A., 664. Cinnamylideneacetylaeetone (Borsche, Rosenthal, and Meyer), A., 664.

Cinnamylidene-4-ethyl thiosemicarbazone (Bose and Chaud-HURY), A., 769.

Cinnamylidenecyclohexylamine (Skita and Wulff), A., 765. Cinnamylidenemalonic acid, and nitro-, methyl esters of (BAKER and Eccles), A., 1068.

Cinnamylidene-4-methyl thiosemicarbazone (Bose and Chaud-HURY), A., 769.

Cinnamylidene-4-β-naphthyl thiosemicarbazone (Bose and Chaud-HURY), A., 769.

9-Cinnamylidene-2-nitrofluorene (LOEVENICH and LOESER), A.,

5-Cinnamylidene-a-pyrone, 4-chloro-6-hydroxy- (MALACHOWSKI and Kalinski), A., 229.

Cinnamylidene-4-tolyl thiosemicarbazones (Bose and Chaud-HURY), A., 769.

Cinnamyl-leucine, a-amino-, benzoyl derivative, and its ethyl ester (GRÄNACHER and MAHLER), A., 468.

2-Cinnamyl-a-naphthaquinone, 3-hydroxy- (FIESER), A., 155. Cinnamyl-y-phenylpropargylaniline (v. Braun and Tauber), A., 1179.

Circulation apparatus (Mellor, Bromley & Co, Bromley, and GREEN; DICKEY and GENERAL PETROLEUM CORP. OF CALI-FORNIA), (P.), B., 433.

Citraconic acid, dyes from (DHAR and DUTT), A., 969.

Citral, compound of, with dimethylcyclohexanedione (BERNARDI). A., 563.

Citric acid, preparation of (BLEYER), (P.), B., 344; (FERNBACH, YUILL, and ROWNTREE & Co.), (P.), B., 344. extraction of (TALLADA), (P.), B., 459.

pyrogenic reactions for (SANCHEZ), A., 543.

metabolism of. See under Metabolism.

bismuthyl compound of (Browning, Cohen, Gulbransen, Phillis, and Snodgrass), A., 855.

dibismuthyl sodium salt, preparation of (v. Oettingen, Ishikawa, and Sollmann), A., 1109. europium salt (Sarkar), A., 325.

ferric ammonium salt, manufacture of (Chemnitius), B., 265. lithium salt, as anticoagulant for blood (DE TONI), A., 371.

vanadium salts (CANNERI), A., 42, 228. chloralides of (BÖESEKEN and BLOK), A., 646.

detection of, microchemically (WAGENAAR), A., 647, 1213. detection of, by Deniges' reaction (Kolthoff), A., 166.

detection of by Stahre's reaction (Schoorl), A., 166. determination of, by Stahre's reaction (HARTMANN and HILLIG), (P.), B., 540.

determination of, in solutions of its magnesium salt (MAYER), B., 796.

Citronella oil, Java, vacuum distillation of (WATERMAN, NELLEN-STEYN, and DAAMEN), B., 669.

determination of total alcohols in (DUPONT and LABAUNE), B.,

determination of geraniol content in (RECLAIRE and SPOELSTRA), B., 427.

Citronellaldehyde (citronellal), compound of, with dimethylcyclohexanedione (Bernardi), A., 563.

Citronellylacetic acid, and its ethyl ester (Ruzicka), A., 1170.

Citrus flavours, fatty oils as substitutes for ethyl alcohol in (Schuette and Domogalla), B., 83. oils (Liotta), B., 172.

seeds, absorption of ions by (HAAS and REED), A., 596, 907. Citrus grandis, nitrogenous constituents of fruits of (HIWATARI), A., 1227.

Civetane (Ruzicka, Schinz, and Seidel), A., 1189. Civetol (Ruzicka, Schinz, and Seidel), A., 1189.

Civetone, increasing the yield of, from civet (NAEF & CIE.), (P.), B., 892.

degradation of (RUZICKA, SCHINZ, and SEIDEL), A., 1189.

Claisen reaction, mechanism of (Swarts), A., 132.

Classifiers, Fahrenwald hydraulic (Dorr Co.), (P.), B., 543. Clay or Clays, explanation of characteristics of (VERSLUYS), B.,

plasticity of (Salmang), B., 602. machine for cleaning (CRABB), (P.), B., 815.

drying properties of (Casselman), B., 220.

effect of grain-size of fluxes on cone melting point of (SALMANG), B., 410.

discoloration of, during firing (Konarzewski and Vickers), B.,

anomalous flocculation of (Joseph and Oakley), A., 513. formation of layers in suspensions of (UNGERER), A., 201. relation of kaolin to (Calsow; Linck and Calsow), A., 38. removal of iron from (Fleissner), (P.), B., 483.

burning of products of (REAMS and FULTON BRICK WORKS), (P.), B., 966.

production of new compositions from (Cloke), (P.), B., 653. manufacture of porous siliceous objects from (F. C. and F. E. KERN), (P.), B., 878.

ball calcined, substitution of, for flint and talc in porcelain and tale bodies (WATTS, KING, and FISK), B., 220.

china, decolorisation of (WICKHAM), (P.), B., 655. colloidal, viscosimetry of (Demolon and Barbier), A., 934.

selective absorption of ions by (Demolon and Barbier), B.,

<u>o</u>

```
Clay or Clays, diaspore, shrinkage of (PHELPS), B., 536.
  dried, modulus of rupture of, as a measure of plasticity (KOHL),
  Japanese acid, ultramicroscopy of (Kobayashi and Yamamoto),
    A., 824.
  refractory, determination of titanic acid in (Lemal), B., 692.
  analysis of, for control purposes (ECKDAHL), B., 557.
  Röntgen-ray analysis of (STRUTINSKI), B., 219.
  permanganate value of (TER MEULEN), B., 655. determination of alkalis in (CIOCHINA), B., 605.
Clay bodies for making tiles, slabs, etc. (GOURDJIAN and JONES),
    (P.), B., 411.
  bonded products, manufacture of (Scheidhauer & Giessing),
    (P.), B., 443.
  slips, formulæ for (HIND), B., 44.
    effect of sodium silicates and other electrolytes on (Mc-
      DOWELL), B., 677.
Cleaning of articles from oil grease or paint (BIGGART), (P.), B.,
  dry (Hatfield and Achille Serre; American Dry Cleaning
    Čo.), (P.), B., 579.
Clip, for fastening covers on funnels (HARTSHORNE), A., 224.
Clostridium acetobutylicum, production of acetylmethylcarbinol by
  (WILSON, PETERSEN, and FRED), A., 1114.
Clover, red, assimilation of phosphorus from phytin by (HECK and
    WHITING), B., 663.
  sweet, coumarin content and nutritive value of (Shutt), A.,
Coagulation of colloids (RICE; JANEK and JIRGENSONS), A., 202.
    in relation to Whetham's law (PENNYCUICK), A., 824.
  of colloidal sols (Ghosh and Dhar; Freundlich and Kroch;
    OSTWALD), A., 18.
  mechanical and electrical (OSTWALD), A., 202.
  orthokinetic and perikinetic (Tuorila), A., 623.
Coal, definition of the term (STADNIKOV and PROSKURNINA), B.,
  theories of formation of (Marcusson), B., 129.
  formation of, from lignin (STRACHE), B., 178; (FUCHS), A., 748.
  ten years research on (FISCHER), B., 321.
  composition of (COCKRAM and WHEELER), B., 401.
  crystallino constituent of (Stopes), A., 137; (Fox), A., 137,
    Ĭ050.
  colloid chemistry of (WINTER), B., 690.
  preparation of, for the market (SINNATT), B., 640.
  relation between physical nature and adsorptive capacity of
    samples of (KREULEN), B., 864.
  effect of weathering on softening and solidification points of
  (LAYNG and COFFMAN), B., 736. treatment of (Internat. Combustion Engineering Corp.,
    RUNGE, and PACKARD), (P.), B., 547, 694.
  apparatus for dry concentration of (DEISTER), (P.), B., 930.
  froth-flotation concentration of (WILLIAMS and MINERALS
  SEPARATION, LTD.), (P.), B., 693.
draining and concentration of (SIMON-CARVES, LTD., and
    ROBINSON), (P.), B., 466.
  cleaning of (Chapman and Wheeler), B., 640; (Holmes), B.,
  apparatus for (Berrisford), (P.), B., 547, 625, 931*. washing of (Chance), (P.), B., 244; (Illingworth Carboniz-
      ATION Co. and ILLINGWORTH), (P.), B., 865.
    apparatus for (Wolf), (P.), B., 161; (Flow Coal Washery Co., Russell, and Austin), (P.), B., 209; (France), (P.),
      B., 356; (LAURENT), (P.), B., 432; (MARCHANT), (P.), B.,
    jig for (JAMES), (P.), B., 323.
    free-discharge separators for (FRANCE), (P.), B., 437.
  washing and separating apparatus for (Bascour), (P.), B., 132; (Delcuvellerie), (P.), B., 358.
drying of (Randolph), (P.), B., 358*; (Internat. Combustion
      and Rosencrants), (P.), B., 514; (Bell and Combustion
      Engineering Corp.), (P.), B., 866.
    apparatus for (Woodall-Duckham, Ltd., and Krall), (P.), B., 64.
  breaking of (Seigle and Dean), (P.), B., 385.
  grinding of (Bell and Combustion Engineering Corp.), (P.),
  crushing machines for (Lozai and Lerciu), (P.), B., 6.
    screening apparatus for (Pennsylvania Crusher Co.), (P.),
  vibratory screens or sieves for (Wood), (P.), B., 68.
```

```
Coal, pulverisation of (LYKKEN), (P.), B., 5. pulverisers for (Bunting), (P.), B., 696.
  heat of distillation of (BURKE and PARRY), B., 178.
  swelling power of (Slater), B., 242.
  ternary mixtures of (KREULEN), B., 289, 576, 593.
  briquetting of (WAGEL and LEHIGH COAL & NAVIGATION Co.),
     P.), B., 402; (Kleinschmidt; Müller and Fischer), (P.),
    B., 466.
  carbonisation of (Internat. Combustion Engineering
      CORP., RUNGE, and PACKARD), (P.), B., 34; (NEWALL and SINNATT), B., 242; (INST. GAS ENGINEERS), B., 592;
       PUENING; BRETHERICK and GLOSSOP), (P.), B., 930.
    and cracking of oils (TRENT), (P.), B., 100.
    in retort furnaces (CARR, TOOGOOD, and DEMPSTER & SONS),
      (P.), B., 133.
    with the Green-Laucks retort (LAUCKS), B., 177.
    low-temperature (ILLIES), B., 576; (SIMPSON), (P.), B., 644.
  influence of ash constituents in carbonisation and gasification of
    (SUTCLIFFE and COBB; BRANSON and COBB; DENT and
    Совв), В., 833.
  gasification of, by oxygen and steam (Cerasoli), B., 624.
  complete gasification of (Bunte), B., 545.
  caking power of (Burdekin), B., 288. coking of (Urbana Coke Corp., Parr, and Layng), (P.), B., 35;
      (URBANA COKE CORP.), (P.), B., 514, 515.
    apparatus for (URBANA COKE CORP., PARR, and LAYNG), (P.),
      B., 721
  cracking of (Internat. Bergin-Comp. voor Olie-en Kolen
    Снемте and Deво), (Р.), В., 273.
  distillation of, apparatus for (HOFFMAN), (P.), B., 319.
    ovens for (DANIELS), (P.), B., 468.
    of small samples (GEIPERT), (P.), B., 516, 643.
    of high sulphur content (GRISWOLD and DOHERTY RESEARCH
      Co.), (P.), B., 644.
    low-temperature (Travers and Clark), (P.), B., 5; (Comp. des Mines de Vicoigne, Nœux, et Drocourt), (P.), B.,
       721.
  steaming of, in vertical retorts (Humphrys), B., 545; (West, West, and West's Gas Improvement Co.), B., 694.
  destructive hydrogenation of (I. G. FARBENIND.), (P.), B., 644.
  hydrogenation and liquefaction of (Skinner and Graham), B.,
  production of hydrogenation gas from waste gases of hydrogen-
    ation of (BERGIUS), (P.), B., 66.
  oxidation of, at different temperatures (KREULEN), B., 736.
    useful products from (Bone, Quarendon, and Gas Light &
      Coke Co.), (P.), B., 402.
  primary decomposition of (KING and WILLGRESS), B., 434.
  decomposition of, by heating with hydrogen (Soc. INTERNAT. COMBUSTIBLES LIQUIDES), (P.), B., 435.
  technical utilisation of, especially for high-pressure processes
    (Krauch), B., 592.
  conversion of, into products of technical use (PATART), B., 66.
  preparation of humin substances from (PIETTRE), (P.), B., 866.
  production of hydrocarbons from (I. G. FARBENIND.), (P.), B.,
    595, 741, 805; (LAMPLOUGH and HODGSON), (P.), B., 899.
  production of liquid fuel from (KING), B., 641.
  mixtures of oil and, as fuel (TRENT), (P.), B., 66. lubricating oils from (NIELSEN and BAKER), B., 834.
  tar and oils from (SINNATT, KING, and LINNELL), B., 37.
  action of concentrated sulphuric acid on types of (KREULEN),
    B., 576.
  treatment of, to prevent formation of smoke (J. F. and J. S.
    LAHART and PIERCE), (P.), B., 466.
  oxidation of pyrites in (LI and PARR), B., 66.
  effect of resins in, on its properties (COCKRAM and WHEELER),
    B., 802.
  sulphur in (Selvic and Fieldner), B., 513.
  action of bacteria on (Fuchs), B., 929.
  growth of fungi on (FISCHER and FUCHS), B., 719, 834.
  inherent ash of (MOTT and WHEELER), B., 802.
  influence of ash on calorific power of (STUMPER), B., 130, 208. analysis of (SCIENTIFIC and INDUSTRIAL RESEARCH), B., 321.
  combustion tray for determination of heating value of (WATKINS
    and Hunn), B., 802.
  volumetric determination of ash content and calorific value of
     (Lategan), B., 833.
  carbonyl number of, in relation to age of deposit and degree of
```

weathering (STRACHE and BRANDL), B., 4.

determination of total carbon in (WATKINS), B., 802.

Coal, determination of coking power of (DE VOOCD), B., 177. determination of yields of coke and by-products from (MÜSCHEN-BORN), B., 576

determination of nitrogen in (VAN STEENKISTE), B., 33.

determination of sulphur in (TER MEULEN), B., 545; (KIDOкого), В., 719.

catalytic action of nitrogen in (Kohout), B., 802.

various crucibles for determination of volatile matter in (Cooper and Oscoop), B., 130.

Coal, American and European, utilisation of (WEYMAN), B., 209. ash-free, influence of ash content on calculated calorific value of (Stumper), B., 736.

bituminous, briquetting of (WAOEL and LEHIGH COAL & NAVI-GATION Co.), (P.), B., 356.

carbonisation of, in rotary retorts (Gewerkschaft M. Stinnes and WEINDEL), (P.), B., 468.

production of oil from (LANDER), B., 739. resin inclusions in (WIGGINGTON), B., 3.

boghead, so-called "alga" of (Hellmers and Potonie), B., 736. Siberian boghead (Stadnikov), B., 736.

brown, influence of properties of, on its briquetting qualities (KEGEL), B., 576.

caking, gasification of, in gas producers (Koller), (P.), B., 694.

Campine, constituents of (DE BOOSERE), B., 160. coking and gas, heat of coking of (Terres and Wolter), B., 177.

fine, apparatus for screening of (Barker), (P.), B., 832. Indian (Rassow and Bhattacheryya), B., 160.

Lancashire, carbonisation of, in vertical retorts (Fuel Research BOARD), B., 691.

long-flame, low-temperature distillation of (Léauté), B., 737. Netherland East Indian (van der Waerden), B., 624.

powdered, combustion of (Jenkins and Sinnatt), B., 802. use of, as fuel for tunnel kilns (HARTFORD), B., 410.

small, cleaning of (Grounds), B., 129.

float-and-sink testing of (Thomson and Kemp), B., 641. Utah, light oils from low-temperature carbonisation of (Brown and Cooper), B., 179.

resinous, oxidation of (DAVIS and REYNOLDS), B., 130. Coal dust, inflammability of (GODBERT), B., 321; (MASON and

WHEELER), B., 434. rate of combustion of (Bouton and HAYNER), B., 178. explosions of (SANO), B., 3.

gas. See under Gas.

mines, prevention of explosions in (TRENT and TRENT PROCESS CORP.), (P.), B., 900.

slimes, draining of (Simon-Carves, Ltd. and Robinson), (P.), B., 6.

sludge, dehydration of (K. and K. Wolf), (P.), B., 132.

tar. See under Tar.

washers (Robinson and Simon-Carves, Ltd.), (P.), B., 98; (Norton), (P.), B., 577.

Baum, froth flotation applied to (GUIDER), B., 641.

Coatings (F. R., M., and A. Hervé), (P.), B., 340*; (Hocker and Western Electric Co.), (P.), B., 609*; (Brit. Thom-SON-HOUSTON Co. and DAVEY), (P.), B., 916.

of articles (Schoop), (P.), B., 221. for metal (Loos, Lehnig, Henning, and Dassdorf), (P.), B., 756.

for metallic surfaces (DANIELSON), (P.), B., 630.

of vessels to resist acids, etc. (SÄURESCHUTZ GES.), (P.), B., 147.

liquid (Bakelite Corp.), (P.), B., 419. protective, for duralumin and similar light-weight alloys (GARDNER), B., 683.

of metals, action of salt solutions on (Samuel), A., 489. Cobalt, lattice structure of (Sekito), A., 1013.

metallic, preparation of (BREMHORST), B., 783.

spectrum of (SUR), A., 802.

absorption spectrum of (MEGGERS and WALTERS), A., 910. Röntgen-ray spectra of, and its compounds (VAN DER TUUK; DE BOER), A., 286.

ultra-violet absorption spectrum of (McLennan and Cooley), A., 395.

absorption in under-water spark spectrum of (SMITH and

Muskat), A., 607. and its alloys with iron and nickel, electrodeposition potentials

of (GLASSTONE), A., 24. periodic passivity of (HEDGES), A., 25.

heat of magnetic transformation of (UMINO), A., 1018.

transformations of, and its alloys with iron and nickel (MASUмото), А., 21.

cementation of, with boron Feszczenko-Czopowse), B., 278.

Cobalt, non-magnetic films of (HANAWALT and INGERSOLL), A., 192; (JACKSON), A., 299. solubility of, in mercury (TAMMANN and KOLLMANN), A., 303.

pyrophoric, adsorption of hydrogen and carbon dioxide by (Nikitin), A., 406.

equilibrium of methane with (SCHENCK, KRÄJELOH, and EISEN-STECKEN), A., 939.

precipitation of, from its salts by zine and cadmium in ethyl alcohol (MÜLLER and THOIS), A., 31.

Cobalt alloys with iron and nickel (WALTER), (P.), B., 337; (KASÉ), A., 830.

thermal expansion of (MASUMOTO and NARA), A., 720. with nickel, electric, magnetic, and thermal properties of (Masumoto), A., 719.

with tungsten (Geiss and VAN LIEMPT), A., 418.

with zinc, electrodeposition potentials of (Glasstone), A., 422. Cobalt bases (cobaltammines), photochemistry of (SCHWARZ and TEDE), A., 217.

molecular volumes of (BIRK), A., 92.

introduction of nitrophenol radicals into (DUFF and BILLS), A.,

salts of, growth of moulds on (KINOSHITA), A., 906.

nitrato- and nitrito-derivatives, volumes of (BIRK), A., 920. Cobaltammine fluoborates (WILKE-DÖRFURT and BALZ), A., 120. Cobaltiborotriammine (DUVAL), A., 325.

Halopentamminecobaltic halides, molecular volumes of (KLEMENT), A., 294.

Hexamminecobaltic perchlorate, crystal structure of (Wyckoff, Hendricks, and McCutcheon), A., 502. chlorothiosulphate (Rây), A., 742.

iodide, crystal structure of (WYCKOFF and McCutcheon), A., 400; (Meisel and Tiedje), A., 923.

Hydroxytetramminecobaltic sulphite (Rây), A., 742. Nitropentamminecobaltic thiosulphate (Rây), A., 742. Sulphitopentamminecobaltic thiosulphate (Rây), A., 742.

Tetramminodinitratocobaltic nitrate (Birk), A., 920. Thiosulphatopentamminecobaltic salts (Rây), A., 742.

Cobalt compounds, lutco-complex (BILTZ), A., 920. Cobalt salts, excretion of (MASCHERPA), A., 992.

physiological action of (BERTRAND and NAKAMURA), A., 992. basic green (Bernardi), A., 636.

Cobalt antimonide, selenide, and telluride, crystal structures of (Oftedal), A., 924.

chloride, refractive index and surface tension of solutions of hydrochloric acid and (Howell), A., 1136.

absorption spectra and conductivity of solutions of (MAZZETTI),

erystal structure of (Ferrari), A., 1128.

density and viscosity of aqueous solutions of (Howell), A., 205.

colour changes of solutions of (GRÓH and SCHMID), A., 728. equilibria of alkali chlorides, water, and (FOOTE), A., 313. equilibria of, with water and metallic chlorides (BENRATH), A.,

equilibria of, with barium, potassium, and sodium chlorides

(MAZZETTI), A., 22. fluosilicate, crystal structure of (HASSEL and SALVESEN), A.,

1014. halides, nature of solutions of (HANTZSCH), A., 1023.

causes of colour change in, and their alcoholates and pyridine compounds (HANTZSCH), A., 205.

nitrate, equilibrium of copper nitrate, water, and (WILCOX and BAILEY), A., 205.

oxide, crystal structure of (Bravo), A., 190.

effect of zinc oxide on colouring properties of (PILLAI), B., 410. hydrate, preparation of (Veil), A., 614. oxides, higher (Bhaduri and Rây), A., 34.

Cobaltic fluoride hydrates (Birk), A., 1157.

sulphate, preparation of (FIGHTER and WOLFMANN), A., 123. Cobalt disulphide (DE JONG and WILLEMS), A., 328.

Tricobalt tetrasulphide, structure of (DE Jong and WILLEMS), A., 502.

Cobalt organic compounds with arylazophenanthrols (CRIPPA and VENTURINI), A., 1180.

with oximes (TAYLOR and EWBANK), A., 58. complex, intramolecular rearrangements in (USPENSKI and Tschibisov), А., 1009.

Cobalt arylazo-β-naphthylamines (CRIPPA), A., 352. bisbenzeneazo- β -naphthol and $-\beta$ -naphthylamine (Charrier

and BERETTA), A., 238.

731.

Cobalt detection and determination :detection of (FALCIOLA), A., 333. determination of (SPACU and DICK; CLENNELL), A., 640. commercial, determination of cobalt and alloyed elements in (Schiffer), B., 845. Cobalt blue (Fox), B., 50. Cobalt ores, decomposition of (SCHULZE), (P.), B., 224. Cobaltothiocyanic acid, mercuric salt (Ormont), A., 325. Cocaine, preparation of (Chemnitius), B., 669. hydrolysis of (SADOLIN), A., 264. and its derivatives, decreasing toxic action of (ECKERMANN), (P.), B., 974. double salts of, with salts of the rare metals (PACE), A., 265. fluoborate (WILKE-DÖRFURT and BALZ), A., 238. fluorosulphonate (Lange), A., 532. hydrochloride, additive compound of phenylurethane and (Santesson), A., 64. reactions of (FERRARIS), A., 1208. Cockchafer oil (KOPP), B., 451. Cockroach. See Periplaneta orientalis. Cocoa, apparatus for grinding or refining of (FRYER), (P.), B., 858. as source of protein in diet (MITCHELL, BEADLES, and KEITH), A., 170. by-products, solubility and activity of nitrogen in (WALTON and GARDINER), B., 313. utilisation of, as fertilisers (Walton and Gardiner), B., 198. powder, soluble, manufacture of (Bollmann), (P.), B., 171. determination of husk in (Turnau), B., 794. Coconuts, industrial treatment of (VAN DEN BERGH, VAN DER JAGT, and VAN KUYK), (P.), B., 472. Coconut oil, distillation of, at low pressures (WATERMAN and **МіјноLT**), В., 494. analysis of mixtures of palm-kernel oil and (Elsdon and Smith), Cocoons, storage of (Kobori and Kanegafuchi Boseki Kabu-SIIIKI KAISHA), (P.), B., 71. Cod, blood-sugar of, during asphyxia (MENTEN), A., 476. Cod-liver oil, action of light on (Peacock), A., 595. effect of heat and oxidation on (Wokes and Willimott), A., 487. food value of (Nelson, Jones, Adams, and Anderegg), B., 667. growth-promoting properties of (GOLDBLATT and MORITZ), A., 282.vitamins of (WILLIMOTT and WOKES), A., 79; (HOLMES, DOOLITTLE, and MOORE), B., 614. transference of vitamins from, to a vegetable oil (Grönning-SAETER and FISHER HOLLINSHED Co.), (P.), B., 570. manufacture of a substance rich in antirachitic and antixerophilic vitamins from (FUNK, DUBIN, and METZ Laboratories), (P.), B., 732. antirachitic value of (B. and S. D. Kramer, Shelling, and Shear), A., 382. influence of, on calcium assimilation (HART, STEENBOCK, KLETZIEN, and Scott), A., 275. administration of, in thyreoparathyroidectomy (JONES), A., 79. preparation of sodium salts of higher unsaturated acids of (SLOVZOV and ASTANIN), A., 696. irradiated, catalytic action of (SCHIMKUS), A., 487. detection and determination of vitamins-A and -D in (Wokes and WILLIMOTT), B., 569. Codamine, constitution of (SPATH and EPSTEIN), A., 163. Codeine, constitution of (Schöff), A., 472. additive compound of carbon suboxide with (DIELS and HANSEN), A., 41. microchemical reactions of (WAGENAAR), A., 785. Codeinone, hydroxy-, constitution of (Schopf and Borkowsky). Coeruleinsulphonic acids, manufacture of (I. G. FARBENIND. and AKT.-GES. ANILIN-FABR.), (P.), B., 325. Coffee, preparation of infusions of (URTIS), (P.), B., 732. treatment of (CRoss), (P.), B., 827. improvement of (GEWALT), (P.), B., 315, 763*. method of flavouring with (Kelloge), (P.), B., 123. sodium sclenite in, as cause of poisoning (RIECHEN), B., 614. caffeine-free, preparation of (KÜNDIG), (P.), B., 504*. determination of caffeine in (Bonifazi), B., 314. cereal and malt, distinction between (MERI), B., 122. determination of caffeine in, microchemically (Röttinger), B.,

Coffee berries, roasted, analysis of (CLAVERA), B., 920. Coffee extracts, caffeine content of (JESSER), B., 153. Coffee grounds, extractives from (v. Vietinghoff), (P.), B., 426. Coffee-nut tree seed oil, Kentucky (BARKENBUS and ZIMMERMAN), A., 1116. Coke, formation and structure of (KREULEN), B., 384. manufacture of (Soc. Anon. Agglom. Brabant and Reiffer-SCHEIDT), (P.), B., 6; (FABRY), (P.), B., 99; (MOTT), B., selection of coal for (Rose), B., 242. and semi-coke (Bascou and Soc. Anon. Petroles, Houilles, & Dérivés), (P.), B., 245*. properties and uses of (QVARFORT), B., 691. influence of coking conditions and additions to coal on properties of (BÄIR and FALLBÖHMER), B., 3. cooling of (Collin & Co. and Schäfer), (P.), B., 549; (Koppers COKE OVEN Co.), (P.), B., 594. apparatus for (Gill), (P.), B., 517; (Humphreys & Glasgow and Bosler), (P.), B., 722. plant for (Schwartz), (P.), B., 549*. apparatus for removing and quenching, from retorts or furnaces (Toogood and Dempster & Sons), (P.), B., 674. drying of (Fleissner), (P.), B., 594. mechanical strength of (DÖRFLINGER), B., 898. improvement of, by grinding the coal (Schweder), B., 691. heat of combustion of carbon in, and its reactivity (TRAVERS), B., 354. reactivity of (NETTLENBUSCH), B., 208; (AGDE and SCHMITT), B., 401; (PARR and STALEY), B., 672. in relation to constituents of original coal (MEZGER and PISTOR), B., 160. reactivity of constituents of (AGDE and v. LYNCKER), B., 929. reactivity of carbonisation products of (AGDE and SCHMITT), B., handling of, discharged from ovens (N.V. SILICA EN OVENBOUW MIJ. and FROHLICH), (P.), B., 549. briquetting of (KLEINSCHMIDT), (P.), B., 466. industrial and domestic uses of (Hollings and Siderfin), B., sulphur in (Selvic and Fieldner), B., 513. blast-furnace, testing of (EISEN- & STAHLWERK HOESCH A.-G. and Wolf), (P.), B., 835. Upper Silesian (Bönnemann), B., 434. discharged, apparatus for receiving (HARRISSON and DRAKE), (P.), B., 517. domestic, ignitability and combustibility of (RHEAD and JEFFERSON), B., 401. gas, dry-cooling of (Gygax and A.-G. Kesselschmiede Richterswil), (P.), B., 866. utilisation of (SMITH), B., 435. sulphur in (Forrières), B., 834. hard, manufacture of (Dvorkovitz), (P.), B., 866. lignite, action of steam on (HOPMANN and GROLL), B., 289. formation of hydrocarbons from, at 500° (FISCHER and PICHLER), B., 864. metallurgical, from peat (GEWERKSCHAFT GEVENICH), (P.), B., 290. semi-, low-temperature, briquetting of (McIntire and Thomson), B., 177. Upper Silesian, improvement of quality of (Dörflinger), B., determination of porosity of (Ross), B., 802. determination of reducing power of (AGDE and SCHMITT), B., 833, 834. Coke ovens (SEMET-SOLWAY Co. and HUGHES), (P.), B., 6; (Koppers Co. and Van Ackeren), (P.), B., 162; (N.V. Silica en Ovenbouw Mil. and Otto & Co.), (P.), B., 436, 740; (Still), (P.), B., 643, 804; (Schröder; Stettiner Chamotte-Fabr. A.-G. vorm. Didier), (P.), B., 694; (Kus and Amer. Coke & Chemical Co.; Coppee & Cie.), (P.), B., 721; (BECKER and KOPPERS Co.), (P.), B., 769; (TAR and Petroleum Process Co.; Wright and Foundation Oven Corp.), (P.), B., 866. design of (VICKERS and GREEN), B., 442. uniform heating of (Kuhn), B., 672. heating walls for (Koksofenbau & Gasverwertung A.-G.), (P.), B., 722. self-sealing door for (SCHWARZ), (P.), B., 771. fuel gas distributing systems for (KOPPERS Co. and BECKER), (P.), B., 770.

Coke ovens, refractories for (VICKERS and GREEN), B., 130. silica walls for (ROBERTS), (P.), B., 6. apparatus for discharging of (STETTINER CHAMOTTE-FABR.), (P.), B., 868. purification of effluents from (BACH), B., 4. path of gases in (DAVIES), B., 4, 401; (SCHMIDT), B., 96. recovery of phenols from (STILL and WEINDEL), (P.), B., 807. by-product, design of (Mott), B., 643. regenerative (Simon-Carves, Ltd., and Brown), (P.), B., 740; (N.V. SILICA EN OVENBOUW MIJ.), (P.), B., 930. retort (VAN ACKEREN and KOPPERS Co.), (P.), B., 402, 771*. small chamber (Schmolke), B., 33. Coke-oven gas. See under Gas. Coking (SCHMIDT), B., 96; (SPERR and KOPPERS Co.), (P.), B., mechanism of (Audibert and Delmas), B., 383. Coking plants, removal of phenol from waste water from (Rascma), B., 691. Cold, production of (AMUNDSEN), (P.), B., 592. Collagen (Herzoo and Jancke), A., 69. physico-chemical structure of (Heringa and Lohr; Heringa and Minnaert; Heringa and Kolkmeijer), A., 203. swelling of, in acids (KÜNTZEL), A., 19. coagulation of (NAGEOTTE), A., 203. dissolution and reprecipitation of (BERGMANN and KOESTER), (P.), B., 949. Röntgen-ray examination of tanning of (KATZ and GERNGROSS), B., 150. treated with neutral salts, action of tanning agents on (Gus-TAVSON), B., 452. compound from catalytic decomposition of (SADIKOV), A., 754. sulphato-hydroxo-chromic compounds of (Gustavson), B., 53. hide and sinew, characteristics of, and their behaviour towards ferments (Sadikov), B., 53. sinew, use of, in tannin analysis (Sadikov), B., 394. Collagenase (Sadikov), A., 377. Collodion membranes. See under Membranes. Colloids (McBain), A., 620. formation of, by trituration (Neugebauer), A., 1137. from complex ions (Dumanski, Buntin, Dijatschkovski, and Kniga), A., 308. thermal synthesis of (GUTBIER, KÖHLER, and SCHIEBER), A., 108. synthesis of, by means of stannous chloride (GUTBIER and OTTENSTEIN), A., 307, 932; (GUTBIER, OTTENSTEIN, LEUTHEUSSER, LOSSEN, and ALLAM; GUTBIER, OTTENSTEIN, and Lossen), A., 620; (Gutbier and Leutheusser; GUTBIER, OTTENSTEIN, and ALLAM), A., 933. theory of complexity applied to (MALFITANO and SIGAUD), A., micelles in (Malfitano and Sigaud), A., 412. chemistry of (Pauli and Schmidt), A., 1137. action of X-rays on (CROWTHER and FARBROTHER), A., 935; (CLARK), A., 1138. change in electrical conductivity of, due to agoing (DHAR), A., 629. influence of salt content on potential of (BEUTNER and MENI-TOFF), A., 600. charge on particles of (WINTGEN), A., 109. change in electric signs of (Boutaric and Perreau), A., 410. imbibition of (BARY), A., 203. solubility and particle size of (BALAREY, KOVANDJIEY, and Kuleliev), A., 823. law of capillary flow for (Porter and RAO), A., 826. cataphoresis in (VINCENT), A., 625. peptisation of (v. Buzkan), A., 310. coagulation of, with reference to Whetham's law (Penny-CUICK), A., 824. equilibria of (RICE), A., 202. velocity of, by salts (JABLCZYŃSKI, and G. and J. KAWENOKI), A., 413. by electrolytes (RABINOVITSCH and BURSTEIN), A., 413; (Rabinovitsch), A., 624. formation of, into globules and pearls (WACHTEL), (P.), B., 198. active, manufacture of (I. G. FARBENIND.), (P.), B., 330. coloured, electro-capillary penetration of (Kopaczewski and Szukiewicz), A., 726. dispersoid, influence of alcohols on coagulation of (JANEK and JIRGENSONS), A., 202. hydrophobic, sensitising of, by proteins (ANDREEV), A., 414. inorganic, Röntgen-ray structure of (Вöнм), А., 823. 20

Colloids, lyophilic (VOLMER), A., 308. of soils, in relation to humidity (FLEROV), B., 498. thixotropic, influence of metals on (FREUNDLICH and RAWITZER). A., 310. determination of, by means of clarification (Werner), A., 1023. Colloid mills (SURTEES), (P.), B., 319. Colloid products, formation of (Neidich), (P.), B., 872. Colloidal gols, X-ray diffraction patterns from (Clark, Aborn, Brugmann, and Davidson), A., 924. solubility and peptisation of (OSTWALD), A., 310. and sols, cataphoresis in (FREUNDLICH and ABRAMSON), A., 931. ions, velocity of transference of, in an electric field (ENGEL and PAULI), A., 511. materials, manufacture of (Bentley, Coates, and Riley & Sons), (P.), B., 207. apparatus for (Sudenburger Maschinenfabr. & Eisen-GIESSEREI and OSTERMANN), (P.), B., 352. metals, preparation of (Fouard), A., 307. action of X-rays on (Crowther and Fairbrother), A., 935. protected, dispersion of (HEBLER), A., 934. particles, electrical structure of (RAY), A., 411. photophoresis of, in aqueous solutions (Barkas), A., 17. measurement of chargo on (BJERRUM), A., 310. coagulation of (TUORILA), A., 623. velocity of eataphoresis of (Gerasimov), A., 726. sedimentation of (LARD), A., 823. stability of (WERNER), A., 620, 1023; (Peskov and Sokolov), sols, adsorption of ions by (Dhar), A., 1021. coagulation of, by electrolytes (Ghosh and Dhar), A., 617. stabilisation of (Consort. Für Elektrochem. Ind., Herr-MANN, and HAEHNEL), (P.), B., 624. hydrophobic, flocculation of, by electrolytes (RABINERSON), A., 624. solutions, preparation of (Roginski and Schalnikov), A., 1137. by means of tobacco juice (JANEK), A., 410. refractometric measurements on (BOUTARIO and PERREAU), A., 1138. investigation of (Andreev), A., 1024. relation of Avogadro number to density of (RAY), A., 934. state and stability of (LINDERSTRÖM-LANG), A., 109. rigidity in (HATSCHEK), A., 1024. distribution of particles in (ZSIGMONDY), A., 17. mean particle size in (Tendeloo), A., 511. with rod-like particles, dielectric constants of (BIKERMAN), A., 92. relation of Tyndall effect to osmotic pressure of (RAMAN), A., 1127. determination of surface tension of (HARKINS), A., 17. surface equilibria of, by the ring method (Du Noüx), A., 514. viscosity of (HATSCHEK), A., 412. in presence of electrolytes (CHARRAVARTI and DHAR), A., 200. sedimentation equilibrium in (TISELIUS), A., 308. stability of, towards electrolytes (Boutaric), A., 621. action of electrolytes on (Rossi and Marsscotti), A., 513. concentration of, and their congulation by electrolytes GHOSH and DHAR), A., 305; (BOUTARIO and PERREAU), A., 825. ageing of (DHAR and CHARRAVARTI), A., 725. influence of ageing on coagulation of (GHOSH and DHAR), A., 18. weakly solvated, coagulation of (OSTWALD), A., 18. antagonism of ions in neutralisation of (Weiser), A., 18. sensitisation of, by other colloids (Ghosh and Dhar), A., 414. hydrophobic, viscosity of (Charravarti and Dhar). A., 725. photo-sensitive (Bhatnagar, Yajnik, and Zadoo), A., 1024. suspensions, manufacture of (Cabot), (P.), B., 800. stability of (Kermack and Williamson), A., 1024. distribution of size of particles in (Niohols and Liebe), A., 308; (Crowther), B., 351. Colophony, distillation of (Borrov), B., 392. oxidation of (RIEBECK'SCHE MONTANWERKE), (P.), B., 305. high-grade, manufacture of (HERCULES POWDER Co.), (P.), B., purified, production of (LOGAN and ACME PRODUCTS Co.), (P.), B., 916. determination of, in shellac (Reinbeck), B., 496. Colorimeters (VAN TUSSENBROEK), A., 537; (FREDERICK), A., 849. lamp for (KAY), A., 955. for matching of solutions (YOE), A., 1164.

```
Colorimeters, Kober-Klett, use of, for measurement of colour of
                                                                         Compounds, complex, ebullioscopic determination of (Bourson and
    sugar liquors in Stammer units (RITCHIE), B., 952.
                                                                               ROUYER), A., 841.
  micro- (KLEINMANN), A., 370.
                                                                             heterometallic, changes in, on heating (GRÜNBERG and
  photo-, industrial T.C.-B. (Toussaint), B., 735.
                                                                               PSCHENITZIN), A., 31.
                                                                             properties of (FARMER and HEALY), A., 646.
  Stammer, improvement of (ZERT), B., 952.
                                                                           organic. See under Organic.
Colorimetry, use of light filters in (KENNEDY), A., 67.
                                                                         Compton effect (GORDON), A., 84; (WENTZEL), A., 603.
Colostrum, iodine in (Maurer and Diez), A., 169.
                                                                           theory of (WENTZEL), A., 804.
Colour, molecular strain theory of (DUTT; BARAT and DUTT), A.,
                                                                          electron velocities in (LUKIRSKY), A., 492.
                                                                           transition from ordinary dispersion to (WALLER), A., SO4.
  and molecular geometry (More), A., 918.
  and magnetism of ions (Joos), A., 94.
                                                                           with bound electrons (KIRCHNER), A., 912.
  and chemical constitution (KEHRMANN, GOLDSTEIN, and v.
                                                                           modified and unmodified rays in (Woo), A., 1000.
                                                                         Concentrators (JOHNSON and WINTERTON), (P.), B., 491.
    Salis), A., 355; (Hodgson), A., 460; (Moir), A., 1067,
    1074; (KEHRMANN), A., 1184.
                                                                         Concentrator table (STEBBINS), (P.), B., 896.
                                                                         Concrete (BILLNER), (P.), B., 444.
manufacture of (Case), (P.), B., 484.
  Lovibond system of (Gibson, Harris, and Priest), A., 537.
  measurement of (ORYNG), B., 543.
    apparatus for (TINTOMETER, LTD., and LOVIBOND), (P.), B.,
                                                                           consistence of (DAVEY), B., 13.
                                                                           colouring of (Brit. Dyestuffs Corp., Baddiley, Shepherd-
      175; (TINTOMETER, LTD., LOVIBOND, and FAWCETT), (P.),
                                                                          son, and Davidson), (P.), B., 655.
mixing apparatus for (RANSOMES & RAPIER and IONIDES), (P.),
      B., 832.
  standardisation and measurement of (KRÜGER), B., 118.
                                                                             B., 77; (WHITAKER), (P.), B., 166; (BLAKE), (P.), B., 254.
  optical properties of substances showing change of, in neutral
                                                                           block compositions of (v. MACH), (P.), B., 412.
    salt solutions (VLES), A., 1023.
Colours, diffraction, production of, on metallic surfaces (TUYMAN,
                                                                           deterioration of (BAYLIS), B., 524.
    KLEIN, and SAYER), (P.), B., 33.
                                                                           bituminous, manufacture of (VAN WESTRUM), (P.), B., 484,
  ice, manufacture of (CHEM. FABR. GRIESHEIM-ELEKTRON), (P.),
      B., 71; (Gebauer-Fülnegg and Specht), (P.), B., 901.
                                                                           high-alumina, temperature developed in (CUTLER), B., 702
    improved fastness of (I. G. FARBENIND.), (P.), B., 276.
                                                                           light, manufacture of, from fibrous organic materials (BROAD-
Colour lakes, structure of (PFEIFFER, GOLTHER, and ANGERN),
                                                                             WAY TRUST Co., BURNEY, and WELLER), (P.), B., 13.
                                                                           porous, manufacture of (LINDMAN), (P.), B., 110, 524.
    A., 362.
manufacture of (I. G. FARBENIND.), (P.), B., 340, 742. Colouring matter, C_{17}H_{18}O_4, and its derivatives, from dragon's blood (FRÄNKEL and DAVID), A., 995.
                                                                        road slab, effects of calcium chloride on (Olson), B., 655.

Condensation apparatus (Petersen and N.V. Nederlandsche Installatie Maats. Therma), (P.), B., 353*; (Isom, Bell, and Sinclair Refining Co.), (P.), B., 671.

Condensers (Akt.-Ges. Brown, Boveri & Co.), (P.), B., 927.
Colouring matters, oxidation of, by sodium hypochlorite (SEYE-
 WETZ and CHAISE), A., 353.
vegetable (KARRER, WIDMER, HÜRLIMANN, and NIEVERGELT),
                                                                          prevention of corrosion in (Internat. General Electric Co.
     A., 252; (KARRER and WIDMER), A., 252, 1197; (KARRER and SALOMON), A., 571; (KARRER), A., 1197.
                                                                             and Alicem. Elektricitäts-Ges.), (P.), B., 767.
                                                                          for recovery of carbonisation by-products, valves for (Henshaw), (P.), B., 549.
    absorption spectra of (TASAKI), A., 918.
                                                                           for stills (OLIVER), (P.), B., 464.
Colouring matters. See also :---
                                                                          sub-cooling (Pabodie and Griscom-Russell Co.), (P.), B., 671.
  Actioporphyrin.
                                    Hæmin.
                                                                        Cones, pyrometric, characteristics of (FAIRCHILD and PETERS),
B., 332.
  Arumin.
                                    Hæmocyanin.
  Bilirubin.
                                    Hirsutin.
  Calendulin.
                                    Mesobilirubinogen.
                                                                             English, French, German, and American, softening points of
  Capsanthin.
                                    Mesoporphyrin.
                                                                               (ĞELLER and PRESSLER), B., 332.
  Capsumin.
                                    Methæmoglobin.
                                                                         Confectionery, manufacture of (McKinlay), (P.), B., 858.
  Carotin.
                                    Monardæin.
                                                                         Confectionery products, determination of starch in (GROSSFELD),
  β-isoCoproporphyrin.
                                    Monardin.
                                                                          B., 456.
                                                                        Coniferin, synthesis of (PAULY and FEUERSTEIN), A., 649. Conline, synthesis of (KOLLER), A., 163.
  Crocetins.
                                    Physalin.
  Deuterohæmin.
                                    Punicin.
  Deuteroporphyrin.
                                    Sambucin.
                                                                         Constitution, chemical, and K absorption spectra (Stelling), A.,
  Fuscochlorin.
                                    Syringidin.
                                                                             and rotatory power (CLARKE, KENYON, and PHILLIPS), A.,
  Fuscorhodin.
                                    Taxorhodin.
  Gentianin.
                                    iso Uroporphyrin.
  Hæmatin.
                                    Vicin.
                                                                             and optical activity (SINGH and RAI), A., 569.
Colouring process (TRICKEY and QUAKER OATS Co.), (P.), B., 452.
                                                                             and adsorption of organic compounds (Schillov and Nekras-
Coltsfoot. See Tussilago farfara.
                                                                              sov), A., 1135.
Columbium. See Niobium.
                                                                             and colour (Kehrmann, Goldstein, and v. Salis), A., 355;
Combustibles, granulated, apparatus for distillation of (Wiedemann), (P.), B., 99.
                                                                               (Hodgson), A., 460; (Moir), A., 1067, 1074; (Kehrmann),
                                                                               A., 1184.
Combustion, calculation of temperatures of (Drossbach), A., 940.
                                                                             and the parachor (Sugden and Wilkins), A., 244; (Sugden
  of gases at high pressures (Bone and Newitt), A., 631; (Town-
                                                                               and Freiman), A., 714.
    END), A., 1146.
                                                                             and therapeutic action (FOURNEAU), A., 172.
  of complex mixtures of gases (MAXWELL, PAYMAN, and
                                                                             and trypanocidal action (KING), A., 684.
    WHEELER), A., 317.
                                                                         Constructal (SANDER), B., 168.
  of mixtures of air with inflammable gases (BERL and WERNER),
                                                                         Contact material, highly active (I. G. FARBENIND.), (P.), B., 467.
                                                                        Containers, method of emptying (I. G. FARBENIND. and FARBEN-
FABR. VORM. BAYER & Co.), (P.), B., 352.
    B., 546.
  catalytic (Bone and Forshaw), B., 289.
  incipient, electrical conductivity of vapours and liquids during
                                                                           acid-proof (Adolph, Pietzsch, and Redlich), (P.), B., 288.
    (Bennett), A., 1008.
                                                                           dust-proof and water-proof (FELTEN & GUILLEAUME CARLS-
  internal, factors affecting (Kelly), B., 692.
                                                                             WERK), (P.), B., 242.
                                                                        Converter bottoms, manufacture of (SCHMIDT), (P.), B., 705. Cooling with exclusion of air (SOMMERNEIER), (P.), B., 2.
Compass bowls, paints for (SMITH), B., 821.
Complex formation and micelles (MALFITANO and SIGAUD), A.,
                                                                          and drying out of contact with air (N.V. CARBO-UNION IND.
  511.
Compounds, aliphatic. See under Aliphatic.
                                                                             Maats.), (P.), B., 319.
  aromatic. See under Aromatic.
                                                                           plates for (JACOBI ART.-GES.), (P.), B., 242.
  complex, classification of (LESSHEIM, MEYER, and SAMUEL),
                                                                           spray (Sausen, Binks, and Binks Spray Equipment Co.), (P.),
      A., 714.
                                                                             B., 575.
    displacement reactions of (GRÜNBERG), A., 31.
                                                                         Cooling apparatus (FIELD and CHEMICAL MACHINERY CORP.), (P.),
    spectrophotometric analysis of (USPENSKI and TSCHIBISOV),
                                                                           B., 287; (CANO), (P.), B., 736*; (HADAMOVSKY), (P.), B.,
      A., 537.
```

Cooling apparatus, use of expansion of gases in (CREMIEU), (P.), B., 671.

tower (HAMON), (P.), B., 768.

Cooling mixtures, liquid, production of (STEATMANN & WERNER and WERNER), (P.), B., 65.

Co-ordination, theory of (PFEIFFER), A., 296.

and residual affinity (Morgan and Burstall), A., 753.

Co-ordination compounds, structure of atoms in (Lessheim, Meyer, and Samuel), A., 921.

Copaene (Henderson, McNab, and Robertson), B., 172.

Copal, Manila, composition of (RUZICKA, STEIGER, and SCHINZ),

alcohol-soluble (Horrmann and Kroll), B., 609. hard (Scheiber), B., 496.

Copalcarboxylic acid, and its calcium salt (HORRMANN and KROLL), B., 609.

Copaldicarboxylic acid, and its salts and derivatives (HORRMANN and KROLL), B., 609.

Copper, extraction of (GREENAWALT), (P.), B., 223.

from ores with ammonia, and preparation of its arsenic compounds (FESTER and BERTUCCI), B., 143.

electrochemical extraction of, from ores (MAOKAY), (P.), B., 115.

electrolytic refining of (Siemens & Halske), (P.), B., 683. cell voltage in (Rouse and Aubel), B., 631.

resistivity of electrolytes for (Skowronski and Reinoso), B., 368.

containing tin (SIEMENS & HALSKE and HÄNSEL), (P.), B., 491.

effect of impurities on (Hanson and Marryat; Hanson and FORD), B., 280.

recovery of, from chloride and sulphate solutions (Duisburger Kupferhütte), (P.), B., 784; (Mattenklodt, Schramm, and Duisburger Kupferhütte), (P.), B., 785*.

recovery of, from concentrates (GREENAWALT), (P.), B., 726. effect of tin on mechanical properties of (STAHL), B., 526. commercial, cold working of (SEIDL and SCHIEBOLD), B., 77.

and its alloys, cementation of (ÉTABL. DE DION-BOUTON Soc. Anon.), (P.), B., 847. cementation of aluminium with (Cournor and Péror), В., 167.

hardening of (Weiser), (P.), B., 784. alloy for welding of (CANZLER), (P.), B., 169.

welding of, to aluminium (CAPICOTTO and DUBILIER CONDENSER Corp.), (P.), B., 753.

Röntgen-ray structure of (ELAM), A., 917.

Röntgen-ray investigation of internal stress in (Sekito), B., 725. lattice structure and density of (DAVEY and WILSON), A., 1128.

absorption of Röntgen rays by (MARTIN), A., 912. scattering of Röntgen rays by (Jauncey and Coven), A., 999. arc spectrum of (Kichlu), A., 2, 910; (Sommer), A., 83.

instantaneous spectrum of (NAGAOKA, NUKIYAMA, and FUTA-GAMI), A., 911.

Röntgen-ray spectrum of (NASLEDOV and SCHARAVSKI; VAN DER TUUK), Â., 286; (Nicholas), A., 602.

spark spectrum of (Shenstone), A., 389.

potential of (Nielsen and Brown), A., 1144. critical potential of (WAHLIN), A., 1000.

ionisation potential of (PICCARDI), A., 811.

electrolysis of, in presence of gelatin (MARIE and BUFFAT), A.,

electrodeposition of (HARRISON), (P.), B., 658. addition agents in (Fuseya and Nagano), B., 632. thermionic melting diagram of (GOETZ), A., 805.

boiling point of (RUFF and KONSCHAK), A., 102. rate of evaporation and vapour pressure of (Jones, Langmuir,

and MACKAY), A., 927. recrystallisation of (WIDMANN), A., 1130; (GLOCKER and WID-

MANN), B., 280; (HAMEMANN), B., 334. production of large crystals of (CARPENTER and TAMURA), A.,

influence of time and temperature on mechanical fracture of large crystals of (SAUERWALD and ELSNER), A., 1017.

effect of rolling on crystal orientation of (TAMMANN and MEYER),

etching reagent for (HOLMAN), B., 281.

molten, surface tension of (LIBMAN), A., 929.

and its alloys with antimony and tin, surface tension of (DRATH and SAUERWALD), A., 723.

viscosity of, at high temperatures (Cournor and Pages), B., 112.

Copper and its alloys, viscosity of (Cournor and Paces), A., 13. and its alloys with antimony and tin, viscosities of (Bienias and SAUERWALD), A., 508.

velocity of solution of, in iron alum solutions (Bekier and Rodziewicz), A., 426.

solubility of, in mercury (Tammann and Kollmann), A., 303. diffusion of zine through (Dunn), A., 105.

equilibria of carbon oxides over (BRODY and MILLNER), A., 939.

influence of other metals on precipitation of (IPATIEV and KLINKOIA), A., 739.

effect of hydrogen-ion concentration on displacement of, from its solutions (IPATIEV and IPATIEV, JUN.), A., 1042. coloration of, during oxidation (Constable), A., 930.

and its alloys, deoxidation of (SIEMENS & HALSKE and MASING), (P.), B., 847.

acid dipping of (GRAHAM), B., 389.

effect of oxygen concentration on corrosion of, by acids (Russell and White), B., 193. and its alloys, protection of, from corrosion (MURRAY), (P.),

B., 17. effect of immersion of, in liquid hydrogen sulphide (Fournier

and Fritsch-Lang), A., 636. influence of sulphur on (SIEBE), B., 752.

and its alloys, use of reducing gases in containers made of (I. G. FARDENIND.), (P.), B., 33, 658.

as industrial contaminant in foods (KING and ETZEL), B., 973. anisotropic (BERKMAN, BÖHM, and ZOCHER), A., 201.

arsenical, brittleness in (Blazey), B., 280.

cast, structure and surface formation of (Siebe and Katterваси), В., 488.

catalytic, preparation of (Pease and Griffin), A., 215. heat of adsorption of carbon monoxide on (Beebe), A., 23. adsorption of hydrogen and ethylene by, poisoned with carbon monoxide (GRIFFIN), A., 1038.

sintering of (Constable), A., 839. cement, purification of (WYPORCK), (P.), B., 847.

colloidal, preparation of (GUTBIER and OTTENSTEIN), A., 932. electrolytic, structure of (GRAHAM), B., 783.

sheets, properties of (SONODA), B., 368. powdered, anodic formation of (DENINA), B., 656.

Copper alloys (Corson; METALLBANK & METALLURGISCHE GES.), (P.), B., 415; (FENER; BASSETT and AMERICAN BRASS Co.), (P.), B., 527.

hardness of (Mallock), A., 508.

with aluminium (METALLBANK & METALLURGISCHE GES.), (P.), B., 448.

segregation phenomena in (CLAUS and DANGO), B., 846. with aluminium and manganese (Krings and Ostmann), A., 830. crystal structure of (Heusler), A., 502.

with aluminium and nickel (Internat. Nickel Co. and MUDGE), (P.), B., 302. with antimony and tin (BONSACK), A., 418.

with beryllium (Corson), B., 281.

with cadmium and zinc, constitution and properties of (JEN-KINS), B., 817.

with gold, palladium, and platinum, crystal structure and conductivity of (Johansson and Linde), A., 400.

with gold and silver, recrystallisation and annealing of (STERNER-RAINER), B., 559.

with gold and with zinc (TAMMANN and HEUSLER), A., 196. with iron (Kelly), (P.), B., 632.

miscibility of (Müller), A., 627; (Ruer), A., 928. with lead and antimony (Geatty), (P.), B., 847. with magnesium (Hansen), B., 255; (Cook and Jones), B., 817.

with manganese and zinc (HEUSLER), A., 313.

with mercury, electrochemistry of (ARNDT and PLOETZ), A., 736. with nickel (Cochrane and U.S. Industrial Alcohol Co.), (P.), B., 194.

electrical properties of (KIMURA and ISAWA), A., 104. colour of (VAN LIEMPT), A., 196.

with nickel and tin (OZLBERGER), (P.), B., 560.

with platinum (Brainin and Baker & Co.), (P.), B., 705. with silver, irregularities in (STREICHER), B., 488.

with silver and tin (Guertler and Bonsack), A., 628. with tin (MILLER), B., 279.

internal friction of (SAUERWALD and TÖPLER), A., 14. equilibria of (RAPER), B., 817. saturation limit of (HANSEN), A., 1141.

with tin and zinc. See under Brass, red.

Copper alloys with zinc, structure of (BAUER and HANSEN), B., 939. Röntgen-ray study of (Phillips and Thelin), A., 1013. hardness and potential of (BAUER and VOLLENBRUCK), B., 335. tensile tests on crystals of (ELAM), B., 558. equilibrium of (JITSUKA), A., 1141.

Copper bases (cuprammines), stability of the cupriammonium ion in salts of (Job), A., 205.

Cuprammonium thiosulphate (Horn and Crawford), A., 634. Copper compounds, co-ordination, optical activity of (MILLS and GOTTS), A., 149.

Copper chlorides, equilibria in mixtures of (Biltz and Fischer), A., 1141.

oxychloride, production of (Mount Lyell Mining & Railway Co. and TREND), (P.), B., 677.

hydride, heat of formation of (SIEVERTS and GOTTA), A., 521. rotational energy function of (BIRGE), A., 1122.

fluorosulphonates, complex (LANGE), A., 532.

nitrate, equilibrium of cobalt nitrate, water, and (WILCOX and Bailey), A., 205.

sulphate, manufacture of (I. G. FARBENIND.), (P.), B., 299; (AGDE and BARKHOLT), B., 388; (L. & M. MEYER), (P.), B.,

ultra-violet absorption spectra of solutions of (Kwieciński and Marchlewski), A., 291.

activity coefficient of (NIELSEN and Brown), A., 1144.

influence of gelatin on growth and dissolution of crystals of (France), A., 320.

equilibrium of sodium sulphate, water, and (CAVEN and Johnston), A., 1142.

solubility of, in ammonia, ammonium carbonate, and bicarbonate (HOLLAND and GILLIGAN), B., 479.

reduction of, by sodium hypophosphite (RAMACHANDRAN), A., 1042.

precipitation of copper from solutions of (Christensen), (P.), B., 847.

basic, for manufacture of euprammonium cellulose solutions (Bemberg A.-G.), (P.), B., 188.

sulphates, basic (Britton), A., 30.

as fungicides (Holland, Dunbar, and Gilligan), B., 121. Cuprie metaborate, decomposition of (PARRAVANO and MAL-QUORI), A., 1155.

oxide, reversal of charge on, by salt solutions (MUKHERJEE and IYER), A., 414.

combustion of carbon monoxide and methane over (Brody

and MILLNER), A., 939. reduction of, by dextrose and uric acid (LANYI), A., 320. reduction of mixtures of zinc oxide and (ROGERS), A., 737.

sols, coagulation of (FREUNDLICH and KROCH), A., 18. protective action of Rochelle salt on (Basu and Laksh-MANAN), A., 725.

salts, reduction of, with acetic anhydride (Menke), A., 131. sulphide, solubility of, in alkali sulphides, in presence of sulpharsenates (DAVIES and MUNRO), A., 1020.

precipitated, composition of (Feigl, Bäcker, and Rosen-BERG), A., 1042.

simultaneous precipitation of zinc sulphide and (BALAREV, GANTSCHEV, and SREBROV), A., 925.

- Cuprous bromide, solid, electrical conductivity of (FISCHER),

chloride, conductivity of (FRERS), A., 521.

iodide, mechanism of conduction in three forms of (TUBANDT, RINDTORFF, and Jost), A., 919.

oxide, finely-divided, production of (I. G. FARBENIND.), (P.), B., 965.

determination of, in its mixtures with copper (Bonner and Kaura), B., 940.

determination of, in sugar analysis (Bisson and Sewell),

sulphide, equilibrium of lead and silver sulphides with (Schwarz and Romero), A., 628.

Copper organic compounds with arylazophenanthrols (CRIPPA and VENTURINI), A., 1180.

with biuret (TRAUBE and WOLFF), A., 232.

with hydroxyglyoximes (Ponzio), A., 134; (Ponzio and Sismondi), A., 135.

with oximes (TAYLOR and EWBANK), A., 58.

bisbenzeneazo-β-naphthol -β-naphthylamine (CHARRIER and BERETTA), A., 238.
bistolucneazo-β-naphthol and -β-naphthylamine (CHARRIER

and Beretta), A., 238.

Copper organic compounds:-

Cupric hydroxide, compounds of, with celluloses and carbohydrates in ammonia solution (MESSMER), A., 619.

Copper detection, determination, and separation:-

detection of, with mercurithiocyanates (Montequi), A., 436. detection of traces of, in alkali chlorides (JANDER and BANTHIEN), B., 297.

determination of (SPACU and DICK), A., 746.

determination of, by reduction with bismuth amalgam (Someya), A., 332, 848.

determination of, electrolytically, in bronze (HAMMOND), B., 301.

determination of, volumetrically (Köszegi), A., 332; (Hahn and HARTLEB), A., 745; (EMMETT), A., 1047.

determination of, in blood-serum (WARBURG), A., 985. determination of, in its mixtures with cuprous oxide (Bonner

and KAURA), B., 940. determination of, in insecticides containing arsenic, iron, and mercury (Bodnar and Terényi), B., 30.

determination of, in treated fabrics (Levi), B., 136.

determination of, in presence of other metals (ZINTL and RIENÄCKER), A., 536.

determination of, in steel (ARMOUR), B., 487.

determination and separation of, by means of 8-hydroxyquinoline (BERG), A., 436.

separation of mercury and (KRAUSS), A., 436.

Copper articles, annealing of (MEEK), (P.), B., 256.

Copper coatings, production of, on aluminium and its alloys (SPRENGER PATENTVERWERTUNG JIROTKA, and JIROTKA), (P.), B., 785.

Copper concentrates, treatment of (GREENAWALT), (P.), B., 784. Copper-lime dust as fungicide (SANDERS and RICHES, PIVER & Co.), (P.), B., 311.

Copper number, determination of (CLIBBENS and GEARE), B.,

Copper ores, metallurgy of (GREENAWALT), (P.), B., 16. trentment of (GREENAWALT), (P.), B., 448. oxidised, treatment of (EDWARDS and DURANT), (P.), B., 81*. silicate, metallurgy of (DEWAR), (P.), B., 114.

sulphide, bituminous, treatment of (I. G. FARBENIND.), (P.), B.,

Copper pipes, corrosion of (DUFTON and BRADY), B., 782. Copper pyrites. See under Pyrites.

Copper refineries, extraction of precious metals from (BARA-BOSHKIN and TRUST URALKUPFER), (P.), B., 194.

Copper tubes in potash plants, wear on (JANDER and BANTHIEN), B., 297.

Copper wire, recrystallisation of (SCHMID and WASSERMANN), A.,

Copratoporphyrin from putrofaction of tissues (Schumm), A., 986. and iso-Coproporphyrins, and their salts and derivatives

(FISCHER and ANDERSAG), A., 1206. Coptisine, salts of (KITASATO), A., 1095.

Coptis japonica, alkaloid from (KITASATO), A., 1095. Cordierite, pleochroic haloes in (MAHADEVAN), A., 956.

Co-reductase, action of (v. Euler and Nilsson), A., 77. Cork (ZETZSCHE and ROSENTHAL), A., 541.

apparatus for boiling (BRIDGES), (P.), B., 362. manufacture of solid articles of (SCHELLHAAS), (P.), B., 775.

Corn stalks, conversion of, into pulp for paper-making (SWEENEY), (P.), B., 963.

Corpus luteum, chemistry of (HART and HEYL), A., 69. hormone content of (LOEWE and LANGE), A., 282. lecithin fatty acids from (HART and HEYL), A., 477.

manufacture of physiologically-active substances from (Soc. CHEM. IND. IN BASLE), (P.), B., 734*.

Corrosion (RUTHVEN), B., 111. electrochemistry of (THIEL and ECKELL), A., 1034; (Blum and RAWDON), B., 447.

influence of boundary films on (Callendar), B., 724. use of ferroxyl indicator in research on (Evans), B., 487.

production of articles resistant to (ALUMINUM Co. of AMERICA and Drx), (P.), B., 560.

prevention of (CREIGHTON and ANTI-SCALE CORP.), (P.), B., 168. due to stray electric currents (CUMBERLAND), (P.), B., 882. of metals, prevention of (NORTH; MURRAY), (P.), B., 80; (SMITH), (P.), B., 606.

of non-ferrous metals (FULLER; MCADAM), A., 1037; (VERNON), B., 301.

Corrosive sublimate. See Mercuric chloride.

isoCorybulbine, and its methiodide (v. BRUCHHAUSEN and STIPPLER), A., 683.

n- and iso-Corybulbines, synthesis of (Spath and Holter), A.,

Corycavamine, constitution of (SPATH and HOLTER), A., 1097. Corycavine, constitution of (SPATH and HOLTER), A., 1097.

Corydaline, formula of, and its salts (v. BRUCHHAUSEN and STIPPLER), A., 683.

Corydalis alkaloids (Späth and Holter), A., 163, 1097; (Späth and Moserric), A., 368.

Corydalis cava, alkaloids of (SPATH and HOLTER), A., 1097.

Corynanthine, and its hydrochloride (KARRER and SALOMON), A.,

Corynebacterium diphtheriæ, ammonium sulphate precipitation of active principle of (WATSON and LANGSTAFF), A., 485.

Corypalmine, synthesis of (Späth and Mosettig), A., 368.

Cotarnoline sulphate (OBERLIN), A., 681.
Cotton, action of sunlight on (BARR and HADFIELD), B., 933. treatment of (Tagliani and Chemische Fabrik vorm. Sandoz), (P.), B., 776.

steeping of, in water or mineral acids (FARGHER, HART, and PROBERT), B., 292.

effect of disruption of hairs of, on extraction of fat, wax, and resin (FARGHER and HIGGINBOTHAM), B., 870.

influence of humidity on breaking load of, at 20° (MANN), B.,

deterioration of, during damp storage (Burns), B., 870. fixation of basic dyes on (I. G. FARBENIND.), (P.), B., 905. production of wool-like effects on (HUEY and SAYLES FINISHING PLANTS), (P.), B., 214.

American, use of hydrocyanic acid gas for fumigation of, on import into India (Turner and Sen), B., 698.

amidated (KARRER and WEHRLI), B., 102.

mercerised, adsorption of water by (URQUHART), B., 293.

analysis of (CLIBBENS and RIDGE; CLIBBENS and GEAKE), B., 471; (FARGHER and HIGGINBOTHAM; CLIBBENS, GEAKE, and RIDGE), B., 870.

determination of combined sulphuric and hydrochloric acids in CLIBBENS and GEARE), B., 471.

Cotton fabrics containing artificial silk, treatment of (Calico PRINTERS' ASSOC., LANTZ, and KEYWORTH), (P.), B., 746.

indigo-coloured, effect of light on (HIBBERT), B., 840. Cotton fibres, increasing the electric insulating properties of (LONDON ELECTRIC WIRE Co. & SMITHS and WILDY), (P.), B.,

treatment of, preparatory to dyeing (KARRER), (P.), B., 71, 840. Cotton goods, mildew in (Morris), B., 470.

Cotton hairs, structure of (SLATER), B., 551.

Cotton plant, mineral constituents of (McHargue), A., 599. Cotton seeds, treatment of, with sulphuric acid (ARCHIBALD), B., 150.

destruction of gossypol in, by heat and moisture (Gallur), B.,

gossypol content and chemical composition of, during development (GALLUP), B., 883. analysis of (Cox), B., 584.

determination of oil and ammonia in (Anon.), B., 584.

Cotton-seed meal, oven-drying method for determination of moisture in (Sherrick), B., 667.

Cotton-seed oil, composition of, from the Upland type of seed (Jameson and Baughman), B., 660.

determination of free fatty acids in (BATTLE), B., 584.

Cotton wool and its charred product, hygroscopic properties of (Gorbatschev and Vinogradova), B., 743. Cotton yarns, sizing of, on a tapo frame (FARROW and JONES),

B., 293. Cotton-yellow, viscosity of sols of (OSTWALD and AUERBACH),

A., 309. Cotyledon, toxicity of, resulting in "krimpsiekte" (KAMERMAN),

Coumarandione derivatives, ring opening and closing in (v.

Auwers and Hernener), A., 156. Coumaranone derivatives, ring fission with (v. Auwers and

Lorenz), A., 60. Coumaranone, 5:6-dihydroxy-, derivative of (Feist and Sieben-

ыsт), А., 671. Coumaranones, formation of, from phenols (v. Auwers, Baum,

and Lorenz), A., 670. Coumaranones, isonitroso-, conversion of, to 1:3-benzoxazine derivatives (Mamell), A., 163.

Coumarie acid, 3-nitro- (Dey and Krishnamurthi), A., 974. Coumarin, manufacture of, from o-coumaric acid (I. G. FARBEN-

IND.), (P.), B., 974. nitration of (DEY and Krishnamurthi), A., 974. derivatives, absorption spectra of (TASAKI), A., 810. detection of, microchemically (VAN ZIJP), A., 974.

Coumarin, 4-hydroxy-, derivatives of (Hellbron and Hill), A.,

isoCoumarin, 4-chloro- (KAUFMANN and HAAS), A., 1083. Coumarins, substituted, action of Grignard reagent on (HEIL-BRON and HILL), A., 1082.

Coumarin series (HEILBRON and HILL), A., 1082.

Coumarone, 4-nitro- (v. Auwers, Baum, and Lorenz), A., 671. Coumaryl-4-acetic acid, synthesis of (Limaye), A., 974. Covellite, thermal decomposition of (Halferdahl), B., 940.

Cows, milking, effect of ultra-violet light on calcium and phosphorus metabolism in (HART, STEENBOCK, SCOTT, and

Нимрикеу), А., 695. calcium equilibrium in (HART, STEENBOCK, SCOTT, and HUMPHREY), A., 275.

Cow ghee, constants of (Brahmachari), B., 973.

Co-zymase (v. Euler and Nilsson), A., 77; (Myrback and NILSSON), A., 484; (v. EULER, NILSSON, and JANSSON), A., 697; (v. Euler and Myrbäck), A., 993.

molecular weight of (v. EULER, MYRBÄCK, and NILSSON), A.,

purification of (RAYMOND and WINEGARDEN), A., 902. content of, in animal tissues (v. EULER and RUNEHJELM), A., 585.

and insulin (VIRTANEN), A., 78.

determination of, in blood (v. EULER and NILSSON), A., 168. Crabs, Pacific Coast, constituents of (Fellers and Parks), A.,

See also Grapsus nankin.

Crackers, determination of hydrogen-ion concentration in, colorimetrically (BOHN and MARTZ), B., 396.

Cracking plant, removal of deposits from (HUFF and UNIVERSAL OIL PRODUCTS Co.), (P.), B., 67. Cranberries, non-volatile acids of (NELSON), A., 799.

canned, discoloration of (Morse), B., 713.

Crape waste, treatment of (Bonnard), (P.), B., 552.

Crataegus oxyacantha, constituents of bark of (Zellner), A., 387. Crayfish, river, proteolytic enzymes in (KRÜGER and GRAETZ). A., 690.

Cream, freezing point of (Doan), B., 954.

sterilisation of (WEBB and UNITED STATES), (P.), B., 922. improvement of (O'CALLAGHAN), (P.), B., 345.

treatment of (COONEY and CAMPBELL COONEY PATENTS Co.), (P.), B., 26, 376, 377*.

carbonation of (Sweeney), (P.), B., 668.

removal of foreign flavours and odours from (MACDONALD and Univ. Tennessee), (P.), B., 922.

butter, treatment of (GRAY and NEWBURGER), (P.), B., 922. icc. See Ice cream.

neutralised, detection of (STROHECKER), B., 568.

sour, evaluation of (Dictino and Briskin), B., 235. detection of added water in (DOAN), B., 954.

determination of fat in (DAHLBERG, HOLM, and TROY), B., 890. determination of hydrogen-ion concentration of (Sharp and MoINERNEY), A., 70.

Creams, chocolate, sugar-tolerant yeasts in (CHURCH, PAINE, and HAMILTON; PAINE, BIRCHNER, and HAMILTON), B., 345. Cream of tartar. See Tartaric acid, potassium hydrogen salt.

Creatine, occurrence of, in soils and plants (LINNEWEH), A., 1228. in hen's eggs (Sendju), A., 894.

Creatinine, occurrence of, in soils and plants (LINNEWEH), A., 1228.

in hen's eggs (Sendju), A., 894.

Creosol, chlorination of, and 2:5:6-trichloro- (QVIST), A., 1066. isoCreosol, 6-nitro-, acetyl derivative (HEAP, Jones, and Robinson), A., 968.

n- and iso-Creosols, ehloro-, and mono- and di-nitro-, and their sodium salts and derivatives (Oxford), A., 968.

Cresote, medicinal, preparation of (Bobrov), B., 392. Cresol, determination of, in lysol (Järvinen), B., 596.

o-Cresol, 3-aminothio-, zinc salt (Bogerr and Allen), A., 679. 3:5-dibromo- (Bureš), A., 554. dibromodiiodo-, tribromoiodo-, chloro-di- and -tri-bromo-, di-

chlorodibromo-, and chlorodibromoiodo-, and their methyl

ethers (Kohn and Rabinovitsch), A., 967.

2-Cresol, 3:5-dinitro-, and its sodium salt, toxicity of, to insect eggs (GIMINGHAM, MASSEE, and TATTERSFIELD), B., 87; (GIMING-HAM and TATTERSFIELD), B., 453. m-Cresol, 2:4:6-tribromo- (Bureš), A., 763.

trinitro-, equilibria in systems of, with hydrocarbons and nitroderivatives (Efremov and Tichomirova), A., 1182.

p-Cresol, boiling point of (GIBBS), A., 967. separation of, from its isomerides (GIBBS), A., 456.

Cresols, equilibria of, with diphenylamine and naphthylamines

(Pushin and Basara), A., 628. equilibria of water and (Michels and Ten Haar), A., 628. gelatinisation of soaps with (Jenčič), B., 494, 563.

mixtures of soaps and, as fruit sprays (WOODMAN), B., 23. detection of (WARE), B., 596.

p-Cresols, dinitro- (DADSWELL and KENNER), A., 456.

o-Cresolbenzein, and dibromo-, and dinitro-, and their salts (ORNDORFF and McNulty), A., 557.

absorption spectra of (ORNDORFF and McNulty), A., 773. p-Cresol-3:5-disulphonic acid, silver salt and derivatives (Anschütz

and CÜRTEN), A., 1183.

o-Cresolmercuri-salts (Manell), A., 268. p-Cresol-5-sulphondiethylamide, 3-bromo- (Steinkoff), A., 965.

p-Cresol-3-sulphonie acid, 5-nitro-, and its salts and derivatives (Anschütz and Cürten), A., 1183.

Cresolsulphonyl fluorides, and 6-amino-, bromo-, and 6-nitro-, and their salts (Steinkopp), A., 965.

Cristobalite, influence of impurities on transformation temperature of (Weil), B., 12.

Crithmum maritimum, oil from (RICHTER and WOLFF), A., 364.

Critical constants of gases (Pickering), A., 194.

point, investigations in the region of (Bennewitz), A., 315. potentials and Röntgen-ray spectra (DAVIES and HORTON), A., 84.

solution temperature as a measure of complex formation (Carter and Megson), A., 1020.

state (Schröer), A., 1029.

temperature, determination of (Gendus), (P.), B., 624*. relation between boiling point, melting point, and (VAN

AUBEL), A., 101. Crocetins, and their salts (KARRER and SALOMON), A., 571.

Crocidolite (JOURDAN), A., 955.

Crocus sativus, colouring matters from (KARRER and SALOMON),

Crops, drying of (OWEN), (P.), B., 203, 856*, 919.

loss of dry matter in drying and storage of (GIESECKE), B., 22. action of fertilisers on yield of (LEMMERMANN, FRESENIUS, and GERDUM), B., 611.

yield of, after seed stimulation (GÜNTHER and SEIDEL), B., 22. relative tolerance of, for aluminium (McLean and Gilbert),

B., 855.

effects of liming and green manuring on yield of (Mooers),

effect of manuring of, on vegetative and reproductive capacity of seeds (NATH and SURYANARAYANA), B., 759.

accumulation and movement of nitrates in four-field rotation of (Mokin), B., 709.

grown on peat soils, phosphoric acid content of (Alway, Shaw, and Methley), B., 170.

influence of potash manuring on (NIKLAS, STROBEL, and SCHARRER), B., 394.

relation of potash removed by, to form of potash in soil (FRAPS), B., 887.

root, drying of (OWEN), (P.), B., 887.

Crotonaldehyde, manufacture of, from acetaldehyde (SILBERRAD), (P.), B., 669.

dimeric (Ionescu), A., 1172.

condensation of, with ammonia, in presence of aluminium oxide (TSCHITSCHIBABIN and OPARINA), A., 1086.

manufacture of condensation products of (I. G. FARBENIND.), (P.), B., 884.

resinous condensation products of aromatic amines and (I. G. FARBENIND.), (P.), B., 635.

hydrazones (v. Auwers and Heimke), A., 1203.

Crotonanilide, β -amino, acylation of (Benary and Kerckhoff),

Crotonic acid series (PHILLIPS), A., 132.

n- and iso-Crotonyl azides (Jones and Mason), A., 1185. cis- and trans-Crotonylcarbamides (Phillips), A., 132.

Crotonyl-p-cresol, 3-β-amino-, and its methyl ether (WITTIG and BLUMENTHAL), A., 668.

Crotonylnaphthols, β -amino- (Wittig and Blumenthal), A., 668. Crotylnaphthaguinones, and 3-hydroxy- (Fieser), A., 463.

Crucibles (SMITH and W. & J. GEORGE), (P.), B., 65 carbon, for very high temperatures (HOFFMANN), B., 671.

porcelain (STAATLICHE PORZELLAN-MANUFARTUR and KÖNIG). (P.), B., 189.

Crucifera, acrid and poisonous qualities of seeds and cakes of (Jorgensen), B., 56.

Crushers (Stubbinos), (P.), B., 95; (Greenfield and Allis-Chalmers Manuf. Co.), (P.), B., 128; (Roscoe), (P.), B., 545; (Allis-Chalmers Manuf. Co. and Newhouse), (P.), B., 831.

for ores (Husn), (P.), B., 575.

gyratory (MITCHELL; SYMONS and SYMONS BROS.), (P.), B., 31; (ANDERSON), (P.), B., 159. vertical disc (Symons), (P.), B., 31.

Crustaceans, marine, arsenic in (Chapman), B., 25. lead in (Chapman and Linden), B., 25.

Cryoscopy, methods and apparatus for (Onnes), A., 301. determination of solubility of gases by (GARELLI and MONATH),

A., 303. Cryostat, automatic (Simon, Fischer, Glauner, and Ehling),

Å., 335. Cryptopalmatine, formation of, from palmatine (HAWORTH, KOEPFLI, and PERKIN), A., 1096.

Cryptopyrrole, a-cyano- (FISCHER, HALBIG, WALACH, SCHUBERT, and OSSENBRUNNER), A., 470.

Cryptopyrrolealdehyde, preparation and derivatives of (FISCHER, HALBIG, WALACH, SCHUBERT, and OSSENBRUNNER), A., 470.

Cryptotoxins (VINCENT), A., 175. Crystals, structure of, and chemical constitution (Goldschmidt), A., 611.

Röntgen-ray structure of, in relation to constitution (BRAGG), A., 97.

physical properties and structure of (Beckenkamp), A., 99.

lattice structure of (PANICHI), A., 298. atomic and ionic lattices of (v. Hevesy), A., 815.

ideal lattice range in (SMEKAL), A., 1012.

reflexion of electrons from lattices of (ZWICKY), A., 925. Laue photographs of (YOSHIDA and TANAKA), A., 95.

use of powder-spectrograms in determining structure of (JAEGER and WESTENBRINK), A., 297.

symmetry of atoms in (HERRMANN), A., 501. electron distribution in atoms of (HAVIGHURST), A., 191.

Pictet's rule and Born's grating theory for (TARASOV), A., 300.

relation between structure of, valency and electron grouping (Hume-Rothery), A., 398.

phosphorescence of (GYULAI), A., 5.

heat motion of atoms of, in relation to X-ray spectra (WALLER), A., 816.

coherence of Röntgen rays reflected from (JAUNCEY and Compton), A., 1013.

magnetic susceptibilities of (RABI), A., 192. electrical conductivity of (REIS), A., 924.

relation between surface, mass, and volume of (HRYNAKOVSKI), A., 817.

calculation of parameters of (LENNARD-JONES and DENT), A.,

surface tension of (Perucca), A., 300.

temperature of commencement of diffusion in (TAMMANN), A., $10\bar{2}.$

growth of (Brandes), A., 504; (Bentivoglio), A., 716. in aqueous solution (MONTILLON and BADGER), B., 687.

effect of gelatin on size and growth of (ECKERT and FRANCE), A., 724.

separation of, from solutions and regeneration of heat (MÜLLER), (P.), B., 629.

composition of, from mixed solutions (Fabris), A., 518, 939. of the formula MG_gLR_g , structure of (Hassel), A., 503. cubic, magnetic anisotropy of (Forrest), A., 299.

transparent, photo-clastic properties of (Maris), A., 1130. ionic, structure of (Pauling), A., 399.

liquid, refractive indices of (MAUGUIN), A., 499. electrical anisotropy of (Jezevski), A., 92.

isotropic point of (Herz), A., 505. structure of carbon chains in (VORLÄNDER), A., 612.

metallic, thermal and electrical conductivity of (GRÜNEISEN and GOENS), A., 1017.

determination of orientation in (Shimizu), A., 1012.

Crystals, metallic, twinned, formation of (Carpenter and Tamura), A., 10, 191; (McKeehan), A., 191.

mixed (Lunde), A., 400; (Balarev and Kandilarov), A., 721, 738; (Balarev, Gantschev, and Srebrov), A., 925.

formation of (VEGARD and HAUGE), A., 504. by precipitation (LUNDE), A., 97.

mobility of ions in (TUBANDT, REINHOLD, and JOST), A.,

grating deformation in (VEGARD), A., 815.

solubility of (Halpern; Ostersetzer; Ploin; Haber-Chuwis; Bertisch), A., 197.

limiting composition of, necessary for chemical action (Mas-ING), A., 123.

organic (Bragg; Muller; Shearer; Yardley; Astbury),

Röntgen-ray structure of (Thibaud; Sarkar), A., 98.

changes in, on heating (GARRE), A., 938. single, Röntgen-ray analysis of (Aston), A., 296.

plastic deformation and strengthening of (SCHMID), A., 99. uniaxial optically active, molecular arrangement of (Burgers),

A., 1126. Crystal detectors, theory of (Ogawa), A., 817.

Crystal hydrates, influence of water of crystallisation on photoelectric effect in (PREDVODITELEV and BLINOV), A., 497,

dehydration of (RAKUZIN and BRODSKI), B., 187.

Crystalline liquids. See Crystals, liquid.

powders, kinetics of reaction of (FISCHBECK), A., 943.

salts, powdered changes in surface of, on keeping (Balarev), A., 95.

Crystallins from the lens (Woods and Burky), A., 1215.

Crystallisation, electrolytic (Kohlschütter; Kohlschütter and Good; Kohlschütter and Jakober), A., 1015.

of saturated solutions at the boiling point (Cornec and Kluc), A., 731.

Crystallisation apparatus (Grasselli Chemical Co.), (P.), B., 65. continuous (GRASSELLI CHEMICAL Co.), (P.), B., 32.

for liquids (WALKER), (P.), B., 176. Crystallites, detection of small inclusions in (TAMMANN and MEYER), B., 680.

Crystallographic constants (GILTA), A., 66.

Crystallography, Röntgen apparatus for (Вонм), А., 954. Cubebol, and its derivatives (HENDERSON and ROBERTSON), A.,

Cucurbocitrin, preparation of (BARKSDALE), (P.), B., 460. Cumene, nitration of (BERT and DORIER), A., 1060.

ψ-Cumenesulphonyl fluoride, and nitro- (Steinkopf), A., 964. Cumidic acid, derivatives of (DE DIESBACH and GUHL), A., 767. Cuminaldoxime, w-chloro-, and its anilino-derivative (RHEIN-BOLDT, DEWALD, JANSEN, and SCHMITZ-DUMONT), A., 245.

Cupolas, operation of (VIAL, EVANS, and GRIFFIN WHEEL Co.), (P.), B., 683.

Cupribenzoylpyruvic acid, strychnine salt (MILLS and GOTTS), A., 149.

Cupric salts. See under Copper.

Cuprictetrapyridine fluoborate (WILKE-DÖRFURT and BALZ), A., 121.

Cupriglycollic acid, sodium salt (WARK), A., 854. Cuprimandelic acid, salts of (WARK), A., 854.

Cuprisalicylic acid, sodium salt (WARK), A., 854. Cuprotartarie acid, alkali salts (Gabiano), A., 543.

circular dichroism of (DE MALLEMANN and GABIANO), A., 812.

Cuprous salts. See under Copper.

Curcumin derivatives (FINGER and SCHOTT), A., 668. Cutlery, quantitative measurement of cutting power of (HONDA and Takahashi), B., 782.

Cyanamide, free, production of aqueous solutions of (Muckenfuss and Roessler & Hasslacher Chemical Co.), (P.), B., 733. industry, twenty-five years of (Landis), B., 298.

and its derivatives as fertilisers (Brioux), B., 171.

poisoning by. See under Poisoning. granulated (Lefort des Ylouses), B., 792.

sodium salts of (TRAUBE, KEGEL, and SCHULZ), A., 45.

Cyanamides, substituted, preparation of (OSBORNE, BARSKY, and AMERICAN CYANAMID Co.), (P.), B., 172. Cyanic acid and Cyanides. See under Cyanogen.

Cyanine dyes (OGATA), A., 1089. Cyanite, calcined, effect of, in porcelain bodies (McDowell and VACHUSKA), B., 220.

Cyanogen, band spectrum of (MULLIKEN), A., 916.

catalytic oxidation of, to nitric oxide (ABE and HARA), A., 321.

Cyanogen compounds, manufacture of (STÄLHANE), (P.), B., 166. catalytic reduction of (RUPE and HECKENDORN), A., 61.

Cyanogen bromide, compounds of, with metallic halides (OBER-HAUSER), A., 756.

chloride, action of, on organo-magnesium halides (GRIGNARD and Ono), A., 130.

halides, action of, on phenylhydrazine (Pellizzari), A., 163. Hydrocyanic acid, constitution of (ENKLAAR), A., 1176.

formation of, from linseed meal (Hansen), B., 503. by action of persulphates on aromatic nitro-derivatives (RICCA), A., 660.

preparation of (I. G. FARBENIND.), (P.), B., 330. catalytic synthesis of (ELÖD and NEDELMANN), A., 838.

manufacture of (I. G. FARBENIND.; ROESSLER & HASSLACHER CHEMICAL Co.), (P.), B., 74; (BREDIG, ELÖD, and KOEPP & Co.), (P.), B., 108; (GLUUD), (P.), B., 331*; (LIEBKNECHT and ROESSLER & HASSLACHER CHEMICAL Co.), (P.), B., 440; (Koepp & Co., Bredig, and Elöd), (P.), B., 522*; (Bredic and Elöd), (P.), B., 602.

apparatus for manufacture and delivery of (LAINÉ), (P.), B., 298.

photolysis of, by mercury are radiations (Andant and Rousseau), A., 738.

specific heat of (INGOLD), A., 11.

density of aqueous mixtures of (Shirado), A., 719.

vapour pressure of (SINOZAKI, HARA, and MITSUKURI), A.,

vapour pressure of aqueous solutions of (Shirado), A., 627. vapour pressure and density of solutions of (Bredig and SHIRADO), A., 819.

separation of, from gaseous mixtures (Liebknecht & Deutsche Gold & Silber-Scheideanstalt vorm. ROESSLER), (P.), B., 75*; (LIEBKNECHT and ROESSLER & HASSLACHER CHEMICAL Co.), (P.), B., 107.

catalytic oxidation of (ZAWADZKI and LICHTENSTEIN), A., 215. action of, on ferric hydroxide (WEDEKIND and FISCHER), A.,

stabilisation of (Deutsche Gold- & Silber-Scheideanstalt VORM. ROESSLER and KERSCHBAUM), (P.), B., 554; (DEUTSCHE GOLD- & SILBER-SCHEIDEANSTALT VORM. ROESSLER), (P.), B., 813.

for use as insecticide (CHEM. FABR. STOLTZENBERG), (P.),

B., 344.

as insecticide and disinfectant (LAINE), (P.), B., 826. fumigation with (LANDIS, BUCHANAN, and AMERICAN CYAN-

AMID Co.), (P.), B., 94. evolution of, for fumigation (Lehrecke and Roessler & HASSLACHER CHEMICAL Co.), (P.), B., 217, 364.

use of, for fumigation of American cotton on import into

India (TURNER and SEN), B., 698. salts, manufacture of (Coulier; Deutsche Gold- & Silber-

SCHEIDEANSTALT VORM. ROESSLER and FREUDENBERG), (P.), B., 251; (CLANCY), (P.), B., 323*.

alkali salts, manufacture of (Deutsche Gold- & Silber-Scheideanstalt vorm. Roessler and Andrich), (P.), B., 408; (POINDEXTER, DOLLEY, and CALIFORNIA CYANIDE Co.), (P.), B., 628.

purification of, containing sulphides (I. G. FARBENIND.), (P.), B., 777.

production of solutions of (Andrich and Roessler & HASSLACHER CHEMICAL CO.), (P.), B., 218. concentration of solutions of (DEUTSCHE GOLD- & SILBER-

SCHEIDEANSTALT VORM. ROESSLER), (P.), B., 365*.

calcium salt, preparation of (Franck and Freitag), B., 42. preparation of (POINDEXTER, OLBERG, and CALIFORNIA CYANIDE CO.), (P.), B., 907.

conversion of, into ammonia (Buchanan, Osborne, and AMER. CYANAMID Co.), (P.), B., 841. complex cobalt and nickel salts (GRUBE, LIEDER, and SCHÄCH-

TERLE), A., 119. copper sodium salt, solutions of (Bonner and Kaura), B., 281.

heavy-metal salts, production of, pure (Cooper and American CYANAMID Co.), (P.), B., 251.

complex iron salts, spectra of (Cambi and Szegő), A., 917. magnesium salt, production of, and its ammonia compound (ÖLBERG and CALIFORNIA CYANIDE Co.), (P.), B., 251.

Cyanogen:-

Hydrocyanic acid, potassium salt, action of oxygen on (BIESALSKI and v. LEPP), A., 864.

action of, on pernitroso-derivatives (Passerini and Brus-

coli), A., 1196.

equilibria of formation of double salts of, with cadmium, mercury, nickel, and zinc cyanides (CORBET), A., 112. poisoning by. See under Poisoning.

potassium silver salt, valve action of silver in aqueous solu-

tions of (GÜNTHER-SCHULZE), A., 317.

sodium salt, production of, from calcium cyanamide (DEUTS. GOLD- & SILBER-SCHEIDEANSTALT VORM. ROESSLER), (P.), B., 937.

ethyl ester, effect of, on biological oxidation (Emerson and

Buchanan), A., 1110.

detection of, in the organism (SENSI and REVELLO), A., 276;

(SENSI), A., 277.

Cyanides, manufacture of (STALHANE), (P.), B., 602; (N.V. NEDEBLANDSCHE MIJNBOUW EN HANDELMAATSCHAPPIJ), (P.), B., 937.

removal of, from masses (JACOBS and DU PONT DE NEMOURS & Co.), (P.), B., 722.

antagonism of glucosone and (Hynd), A., 1110. reaction between tetrathionates and (Tshikawa), A., 1147. complex (Reihlen and Timmermann), A., 233. photochemistry of (Schwarz and Tede), A., 217.

determination of (BICSKEI), A., 331.

Cyanic acid, ammonium salt, action of liver pulp on (Fosse and Rouchelmann), A., 585.

Cyanoruthenites. See under Ruthenium.

Cyanurin group (DIELS and LICHTE), A., 162.

Cyclamin, and its picrate (KARRER, WIDMER, HÜRLIMANN, and NIEVERGELT), A., 252.

Cyclanones (CORNUBERT), A., 666.

apoCyclene, and its derivatives (NAMETKIN and ALEXANDROvana), A., 364.

Cyclic compounds, synthesis of (Vogel), A., 959.

isomeric transformations of (DOJARENKO), A., 138, 871.

p-Cymene (Wheeler and Harris), A., 351; (Wheeler and JENNINGS), A., 352.

action of sulphuryl azide on (BERTHO, CURTIUS, and SCHMIDT),

p-Cymene, 3-bromo-2:6-diamino-, and 3:5-dibromo-2:6-diamino-, and their salts and derivatives (WHEELER and JENNINGS), A., 352.

6-nitro-2-amino-, and its salts and derivatives (Wheeler and

HARRIS), A., 351.

Cymene-5-sniphonic acid, 2-chloro-, bornyl esters of (Meerwein, Hammel, Serini, and Vorster), A., 568.

p-Cymoylbenzenedicarboxylic acids (SEKA, SCHMIDT, and SEKORA),

Cypridina, amount of light emitted by luciferase and luciferin

from (STEVENS; HARVEY), A., 901.

Cysteic acid, titration curves for (ANDREWS and SOHMIDT), A., 827. Cysteic acids, and their phenacyl esters (GORTNER and HOFFMAN),

Cysteine, reducing power of (DIXON and TUNNICLIFFE), A., 961. action of cyanamide on (GLAUBACH), A., 73.

in plants (Kozlowski), A., 80.

in hen's eggs (SENDJU), A., 894.

determination of, in tissues and body fluids (OKUDA), A., 996. l-Cysteine, hydrogen sulphide from bacterial decomposition of (YA01), A., 484.

Cystine, free and combined, decomposition of (ALMY), B., 922. action of cyanamide on (GLAUBACH), A., 73.

content of hair and other epidermal tissues (Wilson and Lewis), A., 787.

in hen's eggs (SENDJU), A., 894.

in liver (HUNTER and EAGLES), A., 478.

peptides, value of, in nutrition (G. T. and H. B. Lewis), A., 792. determination of (PLIMMER and LOWNDES), A., 269.

determination of, colorimetrically (HUNTER and EAGLES), A., 478. determination of, in tissues and body fluids (OKUDA), A., 996. l-Cystine, reduction of, by Bacillus coli (YAOI and HOSOYA), A., 380.

l- and i-Cystines, derivatives of (GORTNER and HOFFMAN), A., 581; (ABDERHALDEN; GORTNER), A., 1212.

Cytochrome, determination of, in yeast cells (v. EULER and FINE), A., 379; (v. Euler, Fine, and Hellström), A., 993. Cytosine-hexosediphosphoric acid, brucine salt of (Thannhauser and BLANCO), A., 268.

Dammar penak (Blair and Byron), B., 916.

Decahydroatophan. See 2-cycloHexyl-1:2:3:4-tetrahydroquinoline-4-car boxylie acid.

Decahydronaphthalene (decalin), and its derivatives (Hückel, MENTZEL, BRINKMANN, and KAMENZ), A., 238.

catalytic dehydrogenation of (Zelinski and Balandin), A., 526.

Decahydronaphthalene, 2-amino-. See β -Decalylamine. 2-hydroxy-. See β-Decalol.

a-nitro-, dinitro-, and tert.-nitro- and its derivatives (MADAEV-Sitschev), A., 234.

Decahydronaphthalene-1-acetic acids, 1-hydroxy-, and their methyl esters (Hückel and Wiebre), A., 150.

cis- and trans-Decahydronaphthalenediacetic acids, and their derivatives (HÜCKEL and WIEBKE), A., 150.

Decahydro-β-naphthamides (KAY and STUART), A., 147.

tert.-Decahydronaphthol (MADAEV-SITSCHEV), A., 234.

cis- and trans-Decahydroquinolines, and their salts and derivatives (Hückel and Stepf), A., 572. Decahydroquinoline-2:4-dicarboxylic acid, and its salts and

derivatives (Nozoe), A., 364.

cis- and trans-β-Decalols, and their salts and phenylurethanes (HÜCKEL, MENTZEL, BRINKMANN, and KAMENZ), A., 238. cis- and trans-β-Decalylamines, and their benzoates and deriv-

atives (Hückel, Mentzel, Brinkmann, and Kamenz), A., 238. Decamethylenediguanidine, manufacture of (HEYN), (P.), B., 714.

Decane-\$\beta-\text{dicarboxylic} acid (Chuit, Boelsing, and Malet), A., 446.

isoDecenoic acid, and its methyl ester (Chuit, Boelsing, and Malet), A., 446.

ι-Decoic acid, ι-bromo-, and its derivatives (Chuit, Boelsing, HAUSSER, and MALET), A., 40.

Decoration of articles, paint for use in (GREENE and GREENE), (P.), B., 884.

Decovisalicylic acid (KAUFMANN), B., 155.

5-Decyl-\(\psi\)-thiohydantoin (Nicoler and Bate), A., 977.

Dehydration, unit for (Moyer and Aridor Co.), (P.), B., 177*. apparatus for (KNIPSOHILD), (P.), B., 896.

Dehydrocholic acid, complex amine salts of (Soc. CHEM. IND. IN

Basle), (P.), B., 572. Dehydrodeoxycholic acid, electro-reduction of (Schenck and

Кисиног), А., 562. Dehydro-o-hydroxybenzaldehyde p-tolylhydrazone (MINUNNI and D'Urso), A., 1073.

n- and iso-Dehydrongaiene dioxides (McDowall), A., 566.

and iso-Dehydro-m-nitrobenzaldehyde p-tolylhydrazones (MINUNNI and D'URSO), A., 1073.

Dehydro-o-nitrophenyldi-(2-hydroxy-a-naphthyl)-methane, and its derivatives (Dischendorfer), A., 1201.

Dehydroquinovic acid, and its anhydride (WIELAND and ERLENвасн), А., 563.

Dehydrosparteine, and its salts (Wolffenstein and Reitmann), A., 887.

Dehydro-m-toluidine. See Phenylmethylbenzthiazole, amino-. Dehydroundecenoic acid, ethyl ester, action of metallic derivatives of, on alkyl halides (MYDDLETON and BERCHEM), A., 959.

Delphinium staphisagria (stavesacre seeds), oil and alkaloids from (Markwood), A., 1227.

Demethoxyharmaline. See Harmalan.

De-N-methylcorydaline (v. BRUCHHAUSEN and STIPPLER), A., 683. De-N-methylethylisocorybulbine, and its salts (v. Bruchhausen and STIPPLER), A., 683.

Density (specific gravity), apparatus for determination of (CARDOSO), A., 335.

determination of, with the Westphal balance (JACOBSEN), A., 533.

relation between refractive index and (BURNETT), A., 1126. dependence of, on temperature (PREDVODITELEV), A., 102; (Sugden), A., 921; (Herz), A., 927.

and latent heat of vaporisation (HERZ), A., 193.

of gases, determination of (STOOK and RITTER), A., 506. apparatus for (Reineke), (P.), B., 127.

with the gas-density balance (STOCK and RITTER), A., 102. of saturated gases at corresponding temperatures (HERZ), A., 718.

of fluids (SHAXBY), A., 12. of liquids, determination of (TRAUTZ and TRIEBEL), A., 615. of small amounts of liquids and solids (Dv Novy), A., 1163.

of binary mixed liquids (WOODMAN), A., 196.

Density of liquid and granular mixtures, equalisation of (Soc. Anon. Manuf. Glaces Prod. Chim. St. Gobain, Chauny, & CIREY), (P.), B., 13.

of suspensions of solids in liquids (CHANCE), (P.), B., 176.

of solutions (DE LATTRE), A., 616.

of solvents, effect of solutes on (GRUNERT), A., 928. separation of materials of differing (Chance), (P.), B., 592*.

apparent, of porous materials (NAVE), B., 383. orthobaric, relation between (Horiuchi), A., 1019. Density comparator, Ferguson (Ferguson), B., 509.

Dental alloys. See under Alloys.

cements. See under Cement.

Deoxidiser (Rodman, Ford, and Westinghouse Electric & Manuf. Corp.), (P.), B., 166. for fluids (TE Arona Dairy Co. and Murray), (P.), B., 623.

1-Deoxyarabinose, and its phenylbenzylhydrazono (Meisen-HEIMER and JUNG), A., 858.

Deoxybenzoin-2:2'-disulphonic acid, 4:4'-dinitro-, and its tripotassium salt and derivatives (Ruggli and Peyer), A., 48. Deoxyepicatechin tetramethyl ether, bromo-derivative (FREUDEN-

BERG and KAMMÜLLER), A., 251.

Deoxycholamide (Borsche and Schwarz), A., 1069. Deoxycholdimethylamide (Borsche and Schwarz), A., 1069.

Deoxycholmethylamide (Borsche and Schwarz), A., 1069. Deoxyciloxanic acid, and its methyl ester (Borsche and Frank),

A., 772. Deoxyglucose, fate of, in rabbits (WINTER), A., 282.

Deoxy-a-isostrophanthonic acid, methyl ester (Jacobs and Gustus), A., 1195.

Deoxytrimethylbrazilone, synthesis of (PERKIN, RÂY, and ROBINson), A., 1084.

Dephlegmation (Seguy and Universal Oil Products Co.), (P.), B., 386.

Depolarisers, liquid, velocities of reaction of (Baillod), A., 736. Desiccation (Dickerson and Industrial Waste Products Corp.),

Desmotroposantonin, action of acids on (Bertolo), A., 149, 150. Detectors, high-frequency (BRITISH THOMSON-HOUSTON Co. and Charlton), (P.), B., 17.

Detergents, manufacture of (COLLOIDAL PRODUCTS Co. and Pettit), (P.), B., 340*.

Detersive compounds (Moseley), (P.), B., 451*.

Detonating compositions, manufacture of (v. Herz), (P.), B., 430*. sensitivities of, to frictional impact, impact, and heat (TAYLOR and RINKENBACII), B., 893.

Detonation and dopes (CALLENDAR), B., 272. Detonators, testing of (Wöhler), (P.), B., 204; (Wöhler, Roth, and Ewald), B., 717.

metallic colloids as anti-knock materials for (OLIN, READ, and Goos), B., 66.

Deuterohæmin and its methyl ester (FISCHER and LINDNER), A., 262.

Deuteroporphyrin, and dibromo, and their methyl esters and salts (Fischer and Lindner), A., 262.

Developers. See Photographic developers.

Dextrin, determination of viscosity of solutions of (STIRNUS), B., 23. Dextrins from starch (SAMEC), A., 995.

saccharification of (PETIT and RICHARD), A., 860.

Dextrose (d-glucose; 'grape-sugar), production of, from cellulosic materials (MEILER and SOHOLLER), (P.), B., 792.

from starchy materials (Corn Prod. Refining Co. and Newkirk), (P.), B., 122, 234.

recovery of hydrochloric acid in manufacture of, from wood

waste (Terrisse and Lévy), (P.), B., 793. large-grained, manufacture of (Newkirk and Internat. PATENTS DEVELOPMENT Co.), (P.), B., 888*.

oxygen bridge in (MICHEEL and HESS), A., 43.

neutral salt action in mutarotation of (Lowry and Smith), A., 1150.

equilibrium of sodium chloride, water, and (MATSUURA), A., 518. effect of ultra-violet light on solutions of (DE FAZI), A., 592, 1113. reduction of cupric oxide by (LANYI), A., 320.

oxidative decomposition of (BLEYER and BRAUN), A., 341, 541. oxidation of, in alkaline iodine solutions (Goebel), A., 648.

by manganese oxides (INGERSOLL), A., 528. decomposition of, by dilute alkali (FISCHLER), A., 449. degradation of (ZEMPLEN and KISS), A., 230. action of benzylamine on (CAMERON), A., 858.

complex compounds of, in ammoniacal copper solutions (MESS-MER), A., 619.

Dextrose, condensation of, with ethyl acetoacetate (WEST), A., 1173.

effect of, on condensation of formaldehyde (KINGSBURY), A., 1172.

behaviour of, in solutions of sodium hydroxide (Groot), A., 341. fermentation of (Hacclund and Ahlbom), A., 379. influence of carbohydrate phosphoric esters on (MAYER),

effect of diabetic blood-serum on permeability of cells to (BISSINGER), A., 789.

degradation of, by rabbits' blood-corpuscles (IRVING), A., 68. action of degradation products of, on carbohydrate metabolism (Fischler), A., 486.

hormone activity after administration of (Häusler and Loewi), A., 795.

action of, on rabbits in urethane narcosis (GUTTMACHER and Weiss), A., 481.

tolerance of rats for (C. F. and G. T. Coni), A., 593.

infused, influence of pancreatic hormone on fate of (KUROKAWA),

injected, distribution and recovery of (Folin, Trimble, and NEWMAN), A., 1217.

effect of, on tolerance (Jordan), A., 594. tetraacetates and toluenesulphonate (HELFERICH and KLEIN), A., 135, 853.

ζ-chlorohydrin and its osazone, and 1-fluoro-, 6-chlorohydrin (HELFERICH and BREDERECK), A., 1056.

2:4-dinitrophenyl-hydrazone and -osazone (Glaser and Zucker-MANN), A., 752.

copper number for (AMICK), A., 1213.

determination of, by biological methods (RONA, NACHMANSOHN, and Nicolai), A., 994.

determination of, iodometrically (Voornies and Alvarado), A., 891.

determination of, microchemically (v. ISSEKUTZ and v. BOTH), A., 600.

determination of, in blood (SJOLLEMA), A., 476.

Dextrosecycloacetoacetic acid, salts and derivatives of (West), A., 1173.

Diabase, fusion of calcium carbonate and (GINSBERG and NIKOgosian), A., 335.

Diabetes (glycosuria), acid production in (ODIN), A., 1106. production of anti-substance for (MACY), (P.), B., 734. calcium metabolism in (Kylin), A., 1106.

preferential utilisation of carbohydrates in (CAMPBELL and MARKOWITZ), A., 274.

fat metabolism in (Bloor, Gillette, and James), A., 1216. relation between metabolism of dextrose and fats in (DHAR), A., 896.

under ether anæsthesia (FUJH and TAKAI), A., 73.

utilisation of protein, carbohydrate, and fat, in hypoglycemia in (GIBSON, GREER, and BABER), A., 1216.

action of insulin in (Häusler and Loewi; Dietrich, Häusler, and Loewi), A., 795; (Dietrich), A., 1222.

action of insulin on gastric secretion in (Cannavò), A., 594. lactacidogen metabolism in muscle in (LANGE), A., 170. alanine and pyruvic acid in liver in (LAUFBERGER), A., 374.

action of mineral waters in (KAUFMANN-Cosla and R. and W. Zörkendörfer), A., 479.

sugar in blood in (SHAPLAND), A., 587.

influence of "synthalin" on respiratory quotient in (LUBLIN), A., 896.

substance in urine in (ILLIEVITZ), A., 373.

avian (Koppanyi, Ivy, Tatum, and June), A., 71.

insulin-treated, cholesterol content of blood-plasma in (RABInovitsch), A., 1106.

phloridzin, mechanism of (Deuel, Wilson, and Milhorat), A., 987.

ketosis and action of dextrose in (Wierzuchowski), A., 790. effect of sodium β -hydroxybutyrate on (Morris and Graham), A., 1216

renal, optical activity and reducing power of dextrose secreted in (Magers and Gibson), A., 1216.

s-Di-5-acenaphthylcarbamide (NAIR and SIMONSEN), A., 159. 4:5-Diacetatomercuri-n-chloroaniline (Vecchiotti), A., 1098.

Diacetone alcohol. See isoHexan-δ-ol-β-one: Diacetonecarbohydrazone (Brown, Pickering, and Wilson),

Diacetophenonecarbohydrazone (Brown, Pickering, and Wilson), A., 232.

Diacetophenonehydrazidicarbohydrazone (Brown, PICKERING, and WILSON), A., 232.

5:6-Diacetoxy-6-aminobenzylidenecoumaranone hydrochloride (Feist and Siebenlist), A., 671.

3:4-Diacetoxybenzaldehyde, and its derivatives (Passu and v. Vargha), A., 152.

5:6-Diacetoxycoumaranone, salts of (Feist and Siebenlist), A., 671.

Diacetoxycoumarinoline (Feist and Siebenlist), A., 671.

5:6-Diacetoxydimethoxybenzylidenecoumaranones, and their dibromide (Feist and Siebenlist), A., 671.

aa-Diacetoxyhomophthalic anhydride (Cornillot), A., 1070. Diacetoxymercurihydroxyketostearic acid, mercuric salt (MYDDLE-

TON, BERCHEM, and BARRETT), A., 1053. Diacetoxymercuriketobehenic acid, mercuric salt (MYDDLETON,

BERCHEM, and BARRETT), A., 1053. Diacetoxymercuriketostearic acid, mcrcuric salt (MYDDLETON, BERCHEM, and BARRETT), A., 1053.

Diacetoxymercuriketoundecoic acid, mercuric salts (MYDDLETON and Barrett), A., 1053.

1:4-Diacetoxy-2-phenylnaphthalene-3-carboxylic acid, ethyl ester (RADULESCU and GHEORGIU), A., 244.

5:6-Diacetoxy-4'-isopropylbenzylidenecoumaranone (Feist and SIEBENLIST), A., 671.

Diacetyl. See Dimethyl diketone.

Diacetylacetoneuranic acid, salts of (HAGER), A., 668.

l(-)-Diacetylarabinal, and its dibromide (Gehrke and Aichner), A., 544.

Diacetylisobarbituric acid (BILTZ, PAETZOLD, and NACHTWEY), A., 259.

Diacetylbenzidine, compounds of, with mercuric acetate (BERNARDI and TARTARINI), A., 581.

trans-aδ-Diacetyl-Δβ-butylene glycol (Prévost), A., 131.

Diacetylisodialuric acid (BILTZ, PAETZOLD, and NACHTWEY), A., 259.

Diacetyldihydroarabinal (Gehrke and Aichner), A., 545.

4:4'-Diacetyldiphenyl (FINGER and SCHOTT), A., 668.

ay-Diacetylglutaconic acid, esters of (Feist, Delfs, and Langenкамр), А., 151.

Diacetylgranatoline (Polonovski and Polonovski), A., 1208. Diacetylperylene, and 3:9-dichloro- (PONGRATZ), A., 1190.

Diacetyl-m-phenylenediamine, 4-iodo- (NICOLET and SAMPEY),

s-Di-p-acetylphenylthiocarbamide (Dyson, George, and Hunter), A., 351.

O-Diacetylphloroglucinaldehyde (Robertson and Robinson), A., 974.

ON-Diacetylpicramic acid (KING), A., 684.

Diacetylsinomenol- β (Goto), A., 146.

a\delta-Diacetyl- $\beta\beta\gamma\gamma$ -tetramethylbutane, derivatives of (Vogel), A., 449.

1:4-Diacetyl-2:3:6-trimethyl- β -glucose (Micheel and Hess), A., 1056.

1:3-Diacetyl-1:2:2-trimethylcyclopentane, and its disemicarbazone (Salmon-Legagneur), A., 1081.

Diacetylyohimbine, and its hydrochloride (Schomer), A., 1097. Diacyl peroxides, detection of, at the anode (FIGHTER), A., 1153.

Diacylacetylarylenediamines, manufacture of (I. G. FARBENIND.), (P.), B., 551*.

Diacylamides (Brunner, Grüner, and Beneš), A., (BRUNNER, MATZLER, and MÖSSMER; BRUNNER and HASLwanter), A., 867.

 $a\beta$ -Diacylstyrenes, synthesis of (Allen and Rosener), A., 971. 2:2'-Dialdehydodiphenyl disulphide, 4:4'-dinitro-, derivatives of (Fries, Eishold, and Vahlberg), A., 782.

ad-Dialdehydoisopentane diphenyllydrazone (Prileschaev), A.,

Dializarin, potassium salt (ECKERT and HAMPEL), A., 882.

p-Dialkylaminoarylphosphinous acids (I. G. FARBENIND.), (P.), B., 173*.

aa-Diallylbenzoylacetic acid, ethyl ester (Billon), A., 879.

isoDialuric acid, and its derivatives (BILTZ, PAETZOLD, and NACHTWEY), A., 259.

Dialysis of oxidisable colloid systems (GUTBIER and OTTENSTEIN), A., 80. reducing action of parchment used in (GUTBIER, OTTENSTEIN,

and Jehring), A., 342. continuous, apparatus for (FAUST and VOGEL), (P.), B., 959.

rapid, apparatus for (GUTBIER and FAHR), A., 38; (AMBARD), A., 385.

Diamagnetism, recent advances in (BIELER), A., 301. of mesomorphic substances (Foex), A., 192.

Diamines, aromatic, condensation of, with dicarboxylic anhydrides (KUHN, JACOB, and FURTER), A., 869. diazotised, action of antimony trichloride on (GRAY), A., 143.

p-Diamines, aromatic, manufacture of compounds of, with sulphur dioxide (I. G. FARBENIND.), (P.), B., 742.

Diamino-acids, precipitation of, with mercuric acetate and sodium hydroxide (NAGELSCHMIDT), A., 961.

Diamond, structure of (LINDSAY), A., 501.

Diisoamylaminoisohexoethylamide, and its hydrochloride (v. Braun and Münch), A., 345. Diisoamylcarbamyl azide and chloride (STOLLÉ, NIELAND, and

MERKLE), A., 1204.

Di- β -amyrin ether (ROLLETT), A., 248.

Dianhydroglucosecycloacetoacetic acid, ethyl ester, and its diacetyl derivative (WEST), A., 1173.

Dianhydrostrophanthidonic acid, methyl ester (JACOBS and Gustus), A., 1194.

Dianhydro-1:2:4:5-tetrakis(dichlorohydroxy)benzene (DE DIES-BACH and GUHL), A., 767. 3:5-Dianilidoacetanilide, 2:4-dinitro- (Kohn and Pfeifer), A., 967.

Dianilinobenzene, 1:4-diamino- and 1:4-dinitro- (Manjunath), A., 978.

9:10-Dianilino-9:10-diphenyl-9:10-dihydroanthracene (Ingold and MARSHALL), A., 141.

Dianilinopyrimidine, chloro-, and its hydrochloride (WINKEL-MANN), A., 678.

Di-p-anisoleazodimethylethylene (Vorländer, Zeh, and Ender-LEIN), A., 554.

Di-p-anisoleazoethylene (Vorländer, Zeh, and Enderlein), A., 554. Di-p-anisoleazomethylethylene (Vorländer, Zeh, and Ender-

LEIN), A., 554. Di-o-anisoleazo-β-naphthols, metallic derivatives of (CRIPPA and

Martegani), A., 1063. Dianisoylmethane (Tasaki), A., 1078.

1:3-Di-p-anisylaminonaphthalene-6:8-disulphonic acid (I. FARBENIND.), (P.), B., 808.

1:3-Di-p-anisylaminonaphthalene-8-sulphonic acid (I. G. FARBEN-IND.), (P.), B., 808.

9:10-Di-p-anisylanthracene (Incold and Marshall), A., 141.

NN'-Di-o-anisylcarbamide (TERENTIEV and RUBINSTEIN), A., 1064. 9:10-Di-p-anisyl-9:10-dihydroanthracene, 9:10-dihydroxy- (Incold and Marshall), A., 141.

aa-Dianisylethane, β-bromo-, ββ-dibromo-, and βββ-tribromo-(HARRIS and FRANKFORTER), A., 139.

aa-Dianisylethylene, β -bromo-, and $\beta\beta$ -dibromo- (HARRIS and Frankforter), A., 139.

Di-o-anisylguanidine, and its hydrobromide (CHEM. FABR. VORM. Schering), (P.), B., 669.

Di-p-anisylidenebenzidine (SIRCAR and DE), A., 50. s-Dianisylthiocarbamides (Dyson, George, and Hunter), A., 351.

1:1'-Dianthraquinonyl, 3:3'-dibromo-4:4'-dihydroxy-, potassium salt, and nitro 4:4'-dihydroxy- (ECKERT and HAMPEL), A., 882. 3:4:3':4'-tetrahydroxy-. See Dializarin.

Dianthrimides, amino-, preparation of (Bunbury and British Dyestuffs Corp.), (P.), B., 183*.

Diaryl ethers, scission of, by piperidine (Le Fèvre, Saunders,

and TURNER), A., 660. substituted (Reilly, Drumm, and Barrett), A., 239.

Diarylamines, ammonium character of (WEITZ and SCHWECHTEN),

1:4-Diarylamino-5:8-dihydroxyanthraquinones, manufacture of

(I. G. FARBENIND.), (P.), B., 136. Diarylcarbamides, diamino-, manufacture of (I. G. FARBENIND.),

(P.), B., 317*. Diaryldihydrocaoutchoucs, dihydroxy-, and their benzoates

(GEIGER), A., 870. Diaryldihydroguttaperchas, dihydroxy-, and their benzoates (GEIGER), A., 870.

 $\beta\beta$ -Diarylethanes, aaa-trichloro-, catalytic reduction of (Brand, WENDEL, and Horn), A., 549.

Diarylguanidines, manufacture of (CHEM. FABR. VORM. SCHERING), (P.), B., 669; (CRONSHAW, NAUNTON, and BRIT. DYESTUFFS CORP.), (P.), B., 797*.

Diarylquinones (PUMMERER and FIEDLER; PUMMERER and

HUPPMANN), A., 770.

Diarylsulphones, diamino- and aminohydroxy-, manufacture of (I. G. FARBENIND.), (P.), B., 360.

Diaspore, properties of (YAMAGUCHI, TAKEBE, and MORIOKA), A., 518.

thermal decomposition of (YAMAGUCHI and TAKEBE), A., 207. Diastase, isolation of, from urine (Rostock), A., 1111.

liver (LESSER), A., 1111.

malt, enzymes in (Ohlsson), A., 277.

pancreatic, coagulation of egg-yolk by (Lagrange), A., 1111. ω-Diazoacetophenone, σ-nitro- (Arndt, Eistert, and Partale),

A., 774. Diazoaminobenzene-2'-carboxylio acid, 2:4-dibromo-, and its potassium salt, and 2:4-dichloro- (Chattaway and Walker),

Diazoaminobenzene-3:3'-disulphonyl, fluoro- (STEINKOPF), A., 964. 2:2'-Diazoaminofluorene (Korczyński, Karlowska, and Kier-ZEK), A., 348.

2:2'-Diazoaminofluorenone (Korczyński, Karlowska, and Kierzek), A., 348.

Diazo-compounds (I. G. FARBENIND.), (P.), B., 359.

dry (Keller, Schnitzspahn, and Grasselli Dyestuff CORP.), (P.), B., 69.

stable, preparation of (I. G. FARBENIND.; CHEM. FABR. GRIES-HEIM-ELEKTRON), (P.), B., 437; (Soc. CHEM. IND. IN BASLE), (P.), B., 470*.

Diazo-dyes, mordant, manufacture of (I. G. FARBENIND. and FARBENFABR. VORM. BAYER & Co.), (P.), B., 771.

2'-Diazofluorene-2'-aminofluorenone (Korczynski, Karlowska, and Kierzek), A., 348.

Diazohydrates. See Diazotates.

Diazo-hydroxides, structure of (CAMBI), A., 1063.

p-Diazoiminobenzene, salts of (GRAY), A., 143.

Diazomethane, methylation with (NIERENSTEIN), A., 1059. action of, on aromatic acyl chlorides (DALE and NIERENSTEIN),

A., 564. condensation of, with carbodianil (ROTTER), A., 162.

action of, on o-nitro-compounds (ARNDT, EISTERT, and PARTALE), A., 774. action of, on o-nitrobenzaldehyde (ARNDT and PARTALE),

A., 360.

condensations of unsaturated substances with (ROTTER),

Diazonium salts, manufacture of preparations of (I. G. FARBEN-IND. and CHEM. FABR. GRIESHEIM-ELEKTRON), (P.), B., 646, 647; (I. G. FARBENIND.), (P.), B., 647.

action of, on pyrones (MULLEN and CROWE), A., 974. use of, in dyeing (Badische Anilin & Soda-Fabrik), (P.), B., 41.

Diazo-sulphonates (HALL and GIBBS), A., 1181. n- and iso-Diazotates, constitution of (HANTZSOII), A., 455.

Dibenzaldehyde, 3:3'-dinitro-, disulphides of, and their di-pnitrophenylhydrazones (Hodgson and Beard), A., 1188.

isoDibenzanthrone (isoviolanthrone) (I. G. FARBENIND.), (P.),

manufacture of (BRITISH ALIZARINE Co., DAWSON, and BEGHIN), (P.), B., 772.

synthesis of (Marschalk), (P.), B., 646.

isoDibenzanthrones, manufacture of (Badische Anilin. & Soda-Fabrik), (P.), B., 101, 326; (I. G. Farbenind.), (P.), B., 404,

isoDibenzanthrones, diohloro- (I. G. FARBENIND.), (P.), B., 387. Dibenzanthrone dyes, vat (BADISCHE ANILIN & SODA-FABR.), (P.), B., 647; (BRIT. DYESTUFFS CORP. and THORNLEY; DYESTUFFS CORP., BADDILEY, SHEPHERDSON, and THORN-LEY; HOLLIDAY & Co. and SHAW), (P.), B., 837.

containing nitrogen (I. G. FARBENIND. and FARBW. VORM.

MEISTER, LUCIUS, & BRÜNING), (P.), B., 550. Dibenzanthronyls, and mono- and di-chloro- (I. G. FARBENIND.),

(P.), B., 903. Dibenzeneazoacetonedioxalic acid, ethyl ester (Mullen and

CROWE), A., 974. Dibenzeneazochelidonic acid, ethyl ester (Mullen and Crowe), A., 974.

3:5-Dibenzeneazo-2:6-dimethylpyrone (MULLEN and Crowe), A., 974.

Di-p-benzeneazodiphenylformamidine (Passerini), A., 868. Dibenzeneazoethylene, constitution and derivatives of (Vor-LÄNDER, ZEH, and ENDERLEIN), A., 553.

2:6-Dibenzeneazopyrone (Mullen and Crowe), A., 974. Dibenzenediazonium chloride antimony trichloride, di-, m-, and p-amino-, diacetyl derivatives (GRAY), A., 143.

Dibenzenesulphonic acid, ethylene ester (Föld), A., 453. Dibenzhydryl ether, di-2:4-dinitro- (Tanasescu), A., 575.

Dibenzoarsenole. See oo'-Diphenvlylenearsine.

2:3:5:6-Dibenzo-4:9-dihydro-1:8-naphthyridine, and its (Haworth and Pink), A., 1089.

2:3:5:8-Dibenzo-1:8-naphthyridine, derivatives of (Haworth and Pink), A., 1089.

2:2'-Dibenzoselenazolyl (BOGERT and STULL), A., 983.

Dibenzoylacetoneuranic acid, pyridine salt (HAGER), A., 668. Dibenzoylacetylene, derivatives of (DUPONT; BALLET), A., 1055.

Dibenzoylanthraquinone-3-carboxylic acid, 2-diamino- and 2-dinitro- (SEKA and SCHMIDT), A., 363. aδ-Dibenzoyl-n-butane, aδ-dibromo- (Conant and Lutz), A.,

1:2-Dibenzoylcyclobutane (Conant and Lutz), A., 523.

Dibenzoyleystines (GORTNER and HOFFMAN), A., 581. βδ-Dibenzoyl-αε-diketopimelic acid. See Methylenebisbenzoylpyruvic acid.

Dibenzoyldimethyl sulphide, and its derivatives and di-p-chloro-(Chrzaszczewska and Chwaliński), A., 667.

2:2'-Dibenzoyldiphenyl sulphide, 4:4'-dinitro- (FRIES, EISHOLD, and Vahlberg), A., 783.

a-β-Dibenzoylethane, aβ-dibromo-, aβ-dibromo-aβ-di-p-bromo-, aβ-dichloro-, and aβ-dichloro-di-p-bromo- (Lutz), A., 59.

aβ-Dibenzoylethylene, α-amino- (DUPONT), A., 1055. a-hydroxy-di-p-bromo- (Lutz), A., 59.

Dibenzoylethylenes, addition of halogen to (LUTZ), A., 565. Dibenzoylfurazan dioxime, peroxide of (DE PAOLINI), A., 1207.

Dibenzoyl-lysine, alkaline hydrolysis of (KARRER and EHRENSTEIN),

Dibenzoyl-2-methylquinoline (TSCHITSCHIBABIN), A., 885.

1:5-Dibenzoylnaphthalene, 2:6-dihydroxy- (1. G. FARBENIND. and FARBW. VORM. MEISTER, LUCIUS, & BRÜNING), (P.), B.,

Dibenzoyloxyacetone phenylhydrazone, and di-p-nitro- (FISCHER, TAUBE, and BAER), A., 340.

2:6-Dibenzoyloxytoluene, 5-amino-, benzoyl derivative (Henrich and HEROLD), A., 1183.

Dibenzoylperylene, di-p-chloro- (PONGRATZ), A., 1190.

dichloro-di-α-chloro- (BENSA), (P.), B., 698.

Dibenzoyl-o-phenylenediamine, 4-nitro- (FRIES, DIECKMANN, FINGERLING, and FINK), A., 781.

Dibenzoyl-a-picoline chloroplatinate (TSCHITSCHIBABIN), A., 885. ay-Dibenzoyl-n-propane, ay-dibromo- (CONANT and LUTZ). A., 523.

1:2-Dibenzoylcyclopropane (CONANT and LUTZ), A., 523.

1:3-Dibenzoyl-1:2:2-trimethylcyclopentane, and its derivatives (Salmon-Legagneur), A., 1081.

2:3:7:8-Dibenzpyrene-1:6-quinone, 10-hydroxy-, and its methyl and ethyl esters (I. G. FARBENIND.), (P.), B., 870. 3:4:8:9-Dibenzpyrene-5:10-quinone, 1:6-dichloro- (I. G. FARBEN-

IND. and FARBW. VORM. MEISTER, LUCIUS, & BRÜNING), (P.), B., 648.

1:6-dihydroxy- (I. G. FARBENIND, and FARBW, VORM, MEISTER, Lucius, & Brüning), (P.), B., 550.

Dibenzpyrenequinones, halogenated, manufacture of (I. G. FARBENIND, and FARBW. VORM. MEISTER, LUCIUS, & BRÜNING). (P.), B., 647.

1:4-Di-1'-benztriazolobenzene (Manjunath), A., 978. 4:4'-Di-1":2":3"-benztriazolyldiphenyl (Tucker), A., 162.

Dibenzylacetic acid, p-tolyl ester (v. Auwers, Baum, and Lorenz). A., 671.

p-Dibenzylaminobenzaldehyde (VILSMEIER and HAACK), A., 245. Dibenzylaminoformic acid, and pp'-dinitro-, methyl esters (Baker), A., 454.

aa-Dibenzylbenzoylacetic acid, ethyl ester (Billon), A., 879. 1:2-Dibenzyl-4-diethyl-3:5-diketopyrazolidine (Kaufmann), 155.

3:6-Dibenzyl-2:5-diketopiperazine, 3:6-di-(3:5-diiodo-4-hydroxy-) (ABDERHALDEN and HAAS), A., 608.

Dibenzyldimethylammonium chloride, dinitro- (STEDMAN), A.,

aa-Dibenzylethanol, β-amino-, toluenesulphonyl derivative (BETTZIECHE, MENGER, and WOLF), A., 45. Dibenzylethylbutylstannane (LAW), A., 166.

Dibenzylglycolldiethylamide (McKenzie and Duff), A., 755. Dibenzylhydrazine, di-o-bromo-, and its derivatives (KENNER

and Wilson), A., 655. Dibenzylidene. di-p-tolylhydrotetrazone, and di-m-nitro-(MINUNNI and D'URSO), A., 1073.

Dibenzyl ketone a-naphthylhydrazone (Korczyński, Brydovna, and Kierzek), A., 256.

thiosemicarbazide (BAIRD and WILSON), A., 1063.

Dibenzylmalonie acid, m-dinitro-, methyl ester (BAKER and Eccles), A., 1068.

δδ"-Dibenzyloxydibutyl sulphide (Bennett and Hock), A., 355. yy'-Dibenzyloxydipropyl sulphide (BENNETT and HOCK), A., 355. Dibenzyl-o-phthalylhydrazine (Kaufmann), B., 155.

Dibenzylpinacol (BARNETT, COOK, and NIXON), A., 349.

αα-Dibenzylpropanol, β-amino-, derivatives of (ΒΕΤΤΖΙΕΟΗΕ, ΜΕΝΘΕΡ, and WOLF), A., 45.

Dibenzylthioldi-p-anisylmethane (Schönberg and Schütz), A., 667.

Dibenzylthioldibenzylmethane (Schönberg and Schütz), A., 667.

9:9-Dibenzylthiolfluorene (Schönberg and Schütz), A., 667. 9:9-Dibenzylthiolxanthene (SCHÖNBERG and SCHÜTZ), A., 667.

aa-Dibutylacetoacetic acid, ethyl ester, oxime of (BILLON), A.,

Dissobutylearbamyl azide and chloride (STOLLE, NIELAND, and MERKLE), A., 1204.

Dissobutyramide, preparation of (BRUNNER, GRÜNER, and BENEŠ), A., 863.

Dissobutyryl peroxide (WIELAND, HINTERMAIER, DENNSTEDT, and Lorenzo), A., 237.

Dissobutyrylboric acid, di-a-hydroxy-, salts of (Böeseken, MULLER, and JAPHONGJOUV), A., 133.

 $Di-\beta-n$ -butyrylvinylimine (Benary), A., 573.

9:9'-Dicarbazyl, and 3:6:3':6'-tetrabromo-, and 3:6:3':6'-tetraiodo-(McLintock and Tucker), A., 678.

Dicarbazyls (Tucker), A., 162; (McLintock and Tucker), A., 678; (Maitland and Tucker), A., 776.

Di-o-carbethoxydiphenylthiocarbamide as accelerator for vulcanisation (British Dyestuffs Corp., Cronshaw, and Naunton), (P.), B., 230.

3-ββ-Dicarbethoxyethylindole-2-carboxylic acid, and its ethyl ester (MAURER and MOSER), A., 255.

αγ-Dicarbethoxyglutaconamide, salts of (URUSHIBARA), A., 345. Dicarbethoxyglutaconic acid, ethyl ester, tautomerism of (Stobbe and WILDENSEE), A., 647.

ay-Dicarbethoxyglutaconic acid, and y-bromo-, ethyl esters, salts and derivatives of (FALTIS and PIRSOH), A., 856.

as-Dicarbethoxyguanidine (PINCK and BLAIR), A., 345.

βδ-Dicarbethoxy-y-kelopimelic acid, ethyl ester (Robinson and ZAKI), A., 1186.

s-Dicarbethoxyphenylthiocarbamides (Dyson, GEORGE, and Hunter), A., 351.

ethyl 3-ββ-Dicarbethoxyvinylindole-2-carboxylic ester (MAURER and Moser), A., 255.

ay-Diearbomethoxyglutaconamide picrate (URUSHIBARA), A., 1059. o-Dicarbomethoxyhydrazinoacetophenone, and its phenylhydrazone (Diels and Alder), A., 160.

2:5-Di-o-carboxyanilino-p-xylene (Leśniański and Czerski), A., 577.

(Di-2-carboxybenzoyl)perylene, di-4-chloro- (Linke, Gorbach, and Schimka), A., 1191.

Di-p-carboxydiphenyl ether, and its silver salt (Reilly, Drumm, and BARRETT), A., 239.

5:5'-Dicarboxydiphenyl disulphide, 3:3'-dichloro-4:4'-dihydroxy-BRITISH DYESTUFFS CORP., SAUNDERS, and MENDOZA), (P.),

B., 8. s-Di-o-carboxyphenylthiocarbamide (Dyson, GEORGE, HUNTER), A., 351.

Dichromates and Dichromic acid. See under Chromium.

ON-Dicinnamoylserine, a-diamino-, acetyl derivative (BERGMANN and MIEKELEY), A., 1202.

Di-m-cresolsnlphonimide (STEINKOPF), A., 965.

Dissocrotyl dibromides, isomeric (Prévost), A., 749.

Dicryptopyrrylmethene, salts of (FISCHER, HALBIG, WALACH, Schubert, and Ossenbrunner), A., 470.

Dictamnus frazinella, oil from leaves and flowers of (RUTOVSKI and VINOGRADOVA), B., 172.

Dicyanodiamide, manufacture of (BARSKY and AMERICAN CYANAMID Co.), (P.), B., 316.

granulated (Lefort des Ylouses), B., 792.

Dicyclic compounds, stereochemistry of (Hückel), A., 773. and their analogy with naphthalene (FRIES), A., 778.

s-Di-pp'-dibenzoyldiphenylethane (Jezierski), A., 247. Di-oo'-dicyclohexylphenol (SKRAUP and BEIFUSS), A., 659.

Di-2:4-dimethoxybenzylidineglycine anhydride (HIRAI), A., 56.

aa-Di-3:4-dimethoxyphenylethyl alcohol (VANZETTI), A., 462.

4:6-Di-(5':6'-dimethoxyphthalidyl)anisole (Brubaker and Adams), A., 1072.

4:6-Di(5':6'-dimethoxyphthalidyl)-2-bromophenol (Brubaker and Adams), A., 1072.

3:5-Di(5':6'-dimethoxyphthalidyl) - o - cresol, 3:5 - di - 4' - bromo-(BRUBAKER and ADAMS), A., 1072.

4:6-Di(5':6'-dimethoxyphthalidyl)methylphenols (Brubaker and Adams), A., 1072.

4:6-Di(5':6'-dimethoxyphthalidyl)phenol (Brubaker and Adams), A., 1072.

and $\delta \epsilon$ -Di-p-dimethylaminophenyloctane- $\beta \eta$ -dione (THOMS-Seebe), A., 153.

Di- $\beta\beta$ -diphenylethyl ether, di- β -hydroxy- (Godohot), A., 444. Didiphenylthiologicobutane, di-n-nitro- (Bennett and Berry),

Di- $\beta\beta$ -diphenylvinyl ether (Godchot), A., 444.

Didiphenylylaniline. See Phenyldidiphenylylamine.

Didiphenylylbenzidine (Piccard), A., 50.

s-Di-(3:6-disulphonaphthalene-2-azo-p-phenyl) carbamide, di-1:8dihydroxy- (Fletcher and Amalgamated Dyestuff & CHEMICAL WORKS), (P.), B., 325.

Dielectrics, electrical conductivity of (SAEGUSA), A., 293. organic, action of ionised gases on (Vogel), (P.), B., 371*.

Dielectric constants, determination of, by the ellipsoid method (PECHHOLD), A., 919.

and refractive index (Herz), A., 498. in quantum mechanics (VAN VLECK), A., 609, 812; (GANS), A., 610; (MANNEBACK), A., 920.

in relation to boundary surface activity (REHBINDER), A., 1136. of gases, temperature variation of (v. Braunmühl), A., 294.

for dipolar gases (MANNEBACK), A., 180. of diatomic dipole gases, influence of a magnetic field on (PAULING), A., 188.

of liquids, variation of, with pressure (Kyropoulos), A., 92.

of organic mixed liquids (KERR), A., 13. of mixtures (Lowry), A., 405.

of binary mixtures (WILLIAMS and KRCHMA), A., 819; (KRCHMA and WILLIAMS; WILLIAMS and ALLGEIER), A., 1132.

of organic compounds, variation of, with temperature (Velasco DURANTEZ), A., 1008.

of solutions of electrolytes (Hellmann and Zahn), A., 7; (WALDEN and WERNER), A., 307; (SACK), A., 409; (SKANCKE and Schreiner), A., 932; (Deubner), A., 1126. of rod-like particle sols (BIKERMAN), A., 92.

of vapours, temperature dependence of (MASKE), A., 920.

Diet, determination of constituents of (RICHARDS and COBURN), A., 275. and calcium assimilation (HART, STEENBOCK, SCOTT, and

HUMPHREY), A., 695. deficient in calcium, use of egg-yolk to supplement (TSE),

A., 176.

influence of, on fat reserves (Belin), A., 274.

rich in fat, growth on (LEVINE and SMITH), A., 480. nitrogen equilibrium in (PUTTER), A., 1107.

rich in proteins or inorganic salts, physiological effects of (OSBORNE, MENDEL, PARK, and WINTERNITZ), A., 275.

effect on kidneys of, containing excess of certain food elements (Addis, and E. M. and L. L. Mackay), A., 170.

and reproduction (GRIJNS and DE HAAN), A., 283; (SURE), A., 905.

effect of glycine in, deficient in vitamin-B (Kon), A., 904.

deficient, calcium and phosphorus metabolism on (SCHULTZER), A., 1115.

synthetic, growth and reproduction on (HARTWELL), A., 72, 1107.

1:1-Diethanesulphonyl-\(\alpha^{2:5}\)-cyclohexadiene-4-one, and 2:3:5:6-tetrabromo- (Récsei), A., 1079.

4:4 - Diethanesulphonyl - 1:4 - dihydronaphthalene, l-hydroxy-

(RÉCSEI), A., 1079. 1:1-Diethanesulphonylcyclohexan-4-one, 2:2:3:3:5:5:6:6-octabromo-(Récsei), A., 1079.

4:4-Diethanesulphonyl-α-naphthaquinone (Récsei), A., 1079. 6:6'-Diethoxy-1:1'-diethyl-2:2'-carbocyanine iodide (OGATA), A.,

NN'-Diethoxydiethylmalonamide (Jones and Major), A., 754. Diethoxy-5:6-dihydrouracil, hydroxy- (BILTZ, PAETZOLD, and

NACHWEY), A., 259. Diethoxy-1:3-dimethyl-5:6-dihydronracil, hydroxy- (Biltz, Part-ZOLD, and NACHWEY), A., 259.

2:3-Diethoxy-4:5-diphenyl-1-cyclohexylpyrrole (Skita and Wulff), A., 765.

Diethoxymethylene (Scheibler), A., 338.

Di-4-ethoxy-3-phenyl-3:4-dihydro-2-quinazolyl sulphide (Reissert and Schaaf), A., 62.

s-Diethoxyphenylthiocarbamides (Dyson, George, and Hunter), A., 351.

Diethoxypinacyanol. See 6:6'-Diethoxy-1:1'-diethyl-2:2'-carbocyanine.

2:4-Diethoxypyrimidine, and its picrate, and 6-chloro- (WINKEL-MANN), A., 678.

aδ-Diethoxy-aaδδ-tetraphenylbutene (Salkind), A., 644.

Diethoxytolane (HARRIS and FRANKFORTER), A., 139.

aa-Di-(6-ethoxy-m-tolyl)ethane, $\beta\beta$ -dibromo-, $\beta\beta\beta$ -tribromo-, and $\beta\beta\beta$ -trichloro- (HARRIS and FRANKFORTER), A., 139.

Diethyl ether. See Ethyl ether.

sulphate. See Ethyl sulphate.

sulphide, ββ-'dicyano- (NEKRASSOV), A., 1176.

 $\beta\beta$ -dihydroxy-, di-p-amino- and di-p-nitro-benzoyl derivatives (Major), A., 766.

sulphide a'-sulphonyl chloride, aa-dichloro- (MÜLLER and Schiller), A., 672.

sulphoxide a'-sulphonyl chloride, a-chloro- (MÜLLER and Schiller), A., 672.

Diethylamine, surface tension of aqueous solutions of (SCHNELL), A., 723. additive compound of, with mercaptanic platinum compounds

(Rây, Bosr-Rây, and Guna), A., 444.

Diethylaminoacetic acid, dihydroxy-, and its picrate and dibenzoyl derivative (KIPRIANOV), A., 343.

8-Diethylaminobutylmalonic acid, ethyl ester (Marvel, Zartman, and BLUTHARDT), A., 1064.

 δ -Diethylamino- βn -dimethylheptane, and its picrate (MAXIM), A., 866.

4'-Diethylaminodiphenylamine-2-carboxylic acid, and 4-amino-, and their derivatives (GOLDSTEIN and DE SIMO), A., 1186.

Diethylamino-5:5-diphenyldihydroacridine, and 3-amino-, and their hydrochlorides and acetyl derivative (Goldstein and DE Simo), A., 1201.

3-Diethylamino-5:5-diphenyldihydroacridine-7-immonium chloride (GOLDSTEIN and DE SIMO), A., 1201.

Diethylaminoethyl alcohol, derivatives of (Jones and Major), A.,

N-(β -Diethylaminoethyl)acetanilide (FARBENFABR. VORM. BAYER & Co.), (P.), B., 379.

8-(β-Diethylaminoethyl)aminoquinoline (Farbenfabr. vorm. Bayer & Co.), (P.), B., 379.

 β -Diethylaminoethylaniline, m-amino- (FARBENFABR. VORM. BAYER & Co.), (P.), B., 379.

o-Diethylaminocyclohexanol, and its hydrochloride (HECKEL and

Adams), A., 662. Diethylaminoisohexoethylamide, and its hydrochloride (v. Braun

and Münch), A., 345. Diethylaminocyclonexyl p-amino and p-nitro-benzoate hydrochlorides (Heckel and Adams), A., 662.

γ-Diethylamino-a-hydroxy-a-methylbutyric acid, and its derivatives (I. G. FARBENIND.), (P.), B., 429.

γ-Diethylamino-β-hydroxypropyl chloride hydrochloride (FARBEN-FABR. VORM. BAYER & Co.), (P.), B., 379.

 $8 - \gamma$ - Diethylamino - β - hydroxypropylamino - 6 - methoxyquinoline

(FARBENFABR. VORM. BAYER & Co.), (P.), B., 379. β -Diethylamino- β -3:4-methylenedioxyphenylisopropyl alcohol, and

its derivatives (Маннюн), (Р.), В., 507. β-Diethylaminomethylpropan-β-ol, and its salts (Krassusky,

STEPANOV, KOSSENKO, and KUSSNER), A., 546. γ-Diethylaminopentane, and its picrate (MAXIM), A., 866.

 ϵ -Diethylamino-n-pentane, β -chloro- (Farbenfabr. vorm. Bayer & Co.), (P.), B., 379.

m-Diethylaminophenol-citraconein (DHAR and DUTT), A., 969. m-Diethylaminophenol-itaconein (DHAR and DUTT), A., 969.

6-Diethylaminophenylarsenious chloride, 3-nitro- (Burton and Gibson), A., 1098.

6-Diethylaminophenylarsinic acid (Burton and Gibson), A., 1098.

Diethylaminopropionic acid, a-dihydroxy-, and its picrate and dibenzoyl derivative (KIPRIANOV), A., 343.

γ-Diethylaminopropylmalonic acid, ethyl ester (MARVEL, ZARTMAN, and BLUTHARDT), A., 1064.

2-Diethylaminopyridine chloroiodide hydrochloride (CHEM. FABR. VORM. SCHERING), (P.), B., 572.

Diethylaniline, 4-nitro-2-amino-, and its hydrochloride and benzylidene derivative (Burron and Gibson), A., 1098.

Diethylarsine, chloro-ZAMBRZYCKI), A., 233. (Grischkevitsch-Trochimovski

Diethyl-8-bromobutylamine, and its hydrobromide (MARVEL, ZARTMAN, and BLUTHARDT), A., 1064.

Diethyl-y-bromopropylamine, and its hydrobromide, and isomeric derivative (Marvel, Zartman, and Bluthardt), A., 1064.

 $\beta\beta$ -Diethyl-n-butyl alcohol, γ -amino-, and its derivatives (Billos), A., 879.

aa-Diethylbutyric acid, β-amino-, ethyl ester (Billon), A., 879. N'N'-Diethylcarbamide, N-hydroxy-, and its derivatives (HURD and Spence), A., 232.

m-Di-β-ethylcarbamidobenzene (Lorano), A., 1182.

 $\beta\beta'$ -Diethyl-m-dicarbamidobenzene, $\beta\beta'$ -2:4:6'-pentanitro-, and its derivatives (LORANG), A., 1182.

9:9'-Diethyl-3:3'-dicarbazyl (MAITLAND and TUCKER), A., 776. Diethyldiphenol (Ono), A., 348.

Diethyldi-y-phenoxypropylammonium bromide (MARVEL, ZART-MAN, and BLUTHARDT), A., 1064.

Diethylenediaminecopper chloroplatiuite (GRÜNBERG and PSCHE-NITZIN), A., 31.

Diethylene glycol, properties of (RINKENBACH), B., 377. dinitrate, preparation and properties of (RINKENBACH), B.,

Diethylene dioxide (dioxan), use of, as solvent in molecular weight determination (ANSCHUTZ and BROEKER), A., 131.

use of, as solvent for cellulose esters or ethers (I. G. FARBEN-IND.), (P.), B., 905.

Diethylerythrophanic acid. See 2:4-Diketo-1-benzoyl-3-β-carbethoxy-β-acetylethylidene-45-cyclohexene-1-carboxylic acid. N-Diethylformamide, action of magnesium organic derivatives on (Maxim), A., 866.

 $\beta\beta$ -Diethylglutarimide (SIRCAR), A., 451.

1:3-Diethyl-2-glyoxalone (LEHMSTEDT and BAHN), A., 980.

as-Diethylguanidine, and its salts (LECHER and DEMMLER), A., 756.

Diethylhydroxyethylamine chloroplatinate and oxide (Jones and Major), A., 754.

Diethyl ketoxime, O-phenylcarbamate (GHEORGHIU), A., 230. Diethylmalonamide, N-chloro- (RINKES), A., 652.

Diethylmelamine, and its salts (TRAUBE, KEGEL, and SCHULZ), A., 46.

Diethyloxamic acid, ethyl ester, selective action of Grignard's reagent on (McKenzie and Duff), A., 755.

aa-Diethyl-Ar-n-penteno-amide and -nitrile (I. G. FARBENIND. and FARBW. VORM. MEISTER, LUCIUS, & BRÜNING), (P.), B., 892.

Diethyl-8-phenoxybutylamine (MARVEL, ZARTMAN, and BLUT-HARDT), A., 1064.

Diethyl-y-phenoxypropylamine, and its hydrochloride (MARVEL, ZARTMAN, and BLUTHARDT), A., 1064.

Diethylpyrrolidinium bromide (MARVEL, ZARTMAN, and BLUT-HARDT), A., 1064.

as-Diethylsuccinimide (SIRCAR), A., 756.

Diethylsulphone, $\beta\beta$ '-dihydroxy-, di-p-amino- and di-p-nitrobenzoyl derivatives (Major), A., 766.

Diethylsulphonyldi-n-propylmethane (RECSEI), A., 750. 1:1-Diethylsulphonylcyclohexane, and 2-chloro- (Rècsei), A., 750.

Diethylsulphonylmethylcyclohexanes (FROMM), A., 1189.

Diethylsulphonyl-n-propylisopropylmethane (RECSEI), A., 750. Diethyldithiocarbamic acid, selenium salt (MURRILL and VANDER-

вит Со.), (Р.), В., 708.

Diethylthioldi-n-propylmethane (Recsei), A., 750. 1:1-Diethylthiolcyclohexane (Rècsei), A., 750.

Diethylthiolmethylcyclohexanes (Fromm), A., 1189.

3:5-Diethyl-1:2:4-triazole, and its salts and silver compound (Grüner, Beneš, Schubert, and Arman), A., 777.

Diethylxanthophanic acid, copper salt and derivatives of (FEIST, Delfs, and Langenkamp), A., 151. p-Diferulcylbenzene, and p-di-5-bromo- (FINGER and SCHOTT),

A., 668. p-Diferuloylbenzene-5:5'-sulphonic acid (FINGER and SCHOTT),

A., 668.

4:4'-Diferuloyldiphenyl (FINGER and SCHOTT), A., 669. 4:4'-Diferuloyldiphenyl-5":5"-disulphonic acid (FINGER

SCHOTT), A., 669. Diffraction gratings, manufacture of (Kondo), (P.), B., 93.

Diffusion (GAPON and MUCHIN; GAPON), A., 1132. apparatus for measuring (SCHUMACHER and FERGUSON), A., 335. Diffusion in a gravitational field (FURTH), A., 1136.

of electrolytes (Dubinin), A., 724.

of liquids, theory of (WILKE and STRATHMEYER), A., 104. in solutions (ULLMANN), A., 404.

in solid solutions (Dunn), B., 369.

Diffusion potentials, effect of temperature on (PRIDEAUX), A., 1033.

Difluorenyls, dehydrogenation of (Vanscheidt), A., 349.

Difluorenylamine, amino- (CISLAK, EASTMAN, and SENIOR), A., 1061.

9:9'-Difluorenylamine, 9:9'-N-tribromo-, and 9:9'-N-trinitro-(GOLDSCHMIDT and REICHEL), A., 963.

Difulvenes, and their absorption spectra and hydrogen derivatives (Vanscheidt), A., 349.

Difurylfuroxan (RHEINBOLDT, DEWALD, JANSEN, and SCHMITZ-DUMONT), A., 245.

Digallic acid as mordant for basic dyes (Victorov), B., 104, 746. Digestion, amylolytic power of secretions of, in relation to glandular activity (ZAGAMI), A., 169.

gastric (Standish, Cowgill, and Shohl), A., 1105.

pancreatic, of proteins, effect of bile on (MATSUKURA), A., 278. peptic, action of tobacco smoke on (VASCELLARI and PENNATI), Â., 591.

tryptic (Ehrenberg), A., 698.

Digitalis, activity of preparations of (VAN WYNGAARDEN), B.,

assay of preparations of (Macht and Krautz), B., 506; (UHLMANN; ROWE), B., 617; (VAN WYNGAARDEN), B., 955.

Digitalis purpurea, properties and constituents of an oil extracted from seeds of (MELLANOFF), B., 892.

Digitonin, properties, isolation, and determination of (MELLANOFF), B., 713.

rate of evaporation of dilute solutions of (Du Noüy), A., 510. hydrolysis of (KILIANI), A., 44.

1:2-Diglucoalizarin (GLASER and KAHLER), A., 752.

Diglucosyl disulphide (FREUDENBERG and WOLF), A., 230.

Diglyceridephosphoric acid, and its salts (Chibnall and Channon), A., 386.

Diglycyl-l-cystine anhydride (ABDERHALDEN and ROSSNER), A., 576.

Diglycylglycine, methyl ester, colloidal substance from, and its silver salt (ABDERHALDEN and SCHWAB), A., 676.

Diguanide, salts of (Andreasch), A., 864.

Diguanides, aromatic, zinc compounds of (I. G. FARBENIND.), (P.), B., 349.

ββ'-Dihalogeno-ethers, preparation of (Schoeller), (P.), B., 459. Dicyclo-[0:2:2]-hexane, synthesis of (ZELINSKI and KOZESCHKOV), A., 653.

Disohexoyltyramine, imino- (ABDERHALDEN and SCHWAB), A., 1113.

Dicyclohexyl, 1:1'-dicyano- (HARTMANN), A., 455.

Dicyclohexylamine hydrobromide (HIERS and ADAMS), A., 552. 1:4-Di(cyclohexylamino)anthraqninone, di-2-hydroxy- (I. G.

FARBENIND.), (P.), B., 809.

p-Dicyclohexylbenzene (v. Braun), A., 655.

Dicyclohexyl-1'-carboxylic acid, 1-cyano- (HARTMANN), A., 455. 3:5-Dicyclohexyl-p-cresol (SKRAUP and BEIFUSS), A., 659.

Dicyclohexyldinaphthylquinones (ALBERTI), A., 145.

Dicyclohexyl ketone, and its oxime (Zelinski and Gaverdov-SKAJA), A., 457.

Dicyclohexylmethane, and 2-hydroxy- (IPATIEV and ORLOV), A., 251.

2:7- Dihydrazino - 4 - methyl - 1:8 - naphthyridine, derivatives of (SEIDE), A., 63.

Di-[o-hydrazinophenyl]ethylene-N:N':N":N"-tetracarboxylic acid, methyl ester (DIELS and ALDER), A., 1, 160.

 γ -2:6-Dihydrazinophenylpropenetetracarboxylic acid, methyl ester (Diels and Alder), A., 160.

Dihydroacridine, 10-cyano- (Wirth), (P.), B., 925.

Dihydroambrettolic acid. See Hexadecoic acid, o-hydroxy...

Dihydroambrettolide (KERSCHBAUM), A., 541. 9:10-Dihydroantbracene, 9:10-diamino - 1:2:9:10 - tetrahydroxy-(GLASER and KAHLER), A., 752.

 $\Delta^{2:6}$ -Dihydroanthranilic acid, and its copper salt and derivatives (MAZZA and CRAPETTA), A., 662.

N-Dihydro-1:2:1':2'-anthraquinoneazine, manufacture of (DU PONT DE NEMOURS & Co.), (P.), B., 551*; (ULICH, GOODRICH, and NEWPORT Co.), (P.), B., 771; (SACHS and DU PONT DE Nemours & Co.), (P.), B., 870.

N - Dihydro - 1:2:1':2' - anthraquinoneazine, chloro-derivatives (BISHOP and DU PONT DE NEMOURS & Co.), (P.), B., 809.

Dihydroartemisic acid, and its ethyl ester (Bertolo), A., 149. 7:12-Dihydroisobenzophenarsazine, bromo-, and chloro- (GIBSON and Johnson), A., 1211.

1:2-Dihydrobenzoxazolone, 4-amino-, 6-chloro-4-ami-4-nitro-, and 4-nitro- (CASSELLA & Co.), (P.), B., 125. 6-chloro-4-amino-

1:2-Dihydrobenz oxazolone-4-arsinic acid, and 6-chloro- (Cassella & Co.), (P.), B., 125.

Dihydrobetulin, and its salts (Vesterberg), A., 882. Dihydrocivetol (RUZICKA, SCHINZ, and SEIDEL), A., 1189.

Dihydrocodeinone, isooxime from, and its picrate and derivatives (Schöpf), А., 472.

Dihydrocodeone, hydroxy, phenylhydrazone (Schörf and Borkowsky), A., 473.

Dihydrocorycavine iodide (Späth and Holter), A., 1097.

Dihydrocymarin (JACOBS and HOFFMANN), A., 1109.

Dihydrode-N-dimethylcorydaline, and its salts (v. Bruchhausen and STIPPLER), A., 683.

Dihydrodigitoxin (JACOBS and HOFFMANN), A., 1109.

Dihydroendocamphene (LIPP, GÖTZEN, and REINARTZ), A., 568. Dihydroepithebainone oxime (Schopf and Borkowsky), A., 1209. Dihydrohæmin (Kuhn, Braun, Seyffert, and Furter), A., 784. Dihydrolaganic acid, and its amide (Kotake), A., 1215.

Dihydrolignone (Alberti), A., 145.

Dihydromethylthebainolmethine, and its salts (Schöff and Borkowsky), A., 1209.

Dihydromethylthebainonemethine, and its methiodide (Schöff and Borkowsky), A., 1209.

 $\Delta\beta$ -Dihydromuconic acid, esters of (FARMER and DUFFIN), A., 448. 5:6-Dihydro-a-naphthacridine, and amino-, 2-chloro-, 8-cyano-, 8-nitro-, and 8:10-dinitro-, and their salts and derivatives (v. Braun, Rohmer, and Jungmann), A., 257. .

5:6-Dihydro-a-napthacridine-7-carboxylamide, and its methylurethane derivative (v. Braun and Jungmann), A., 257.

5:6-Dihydro-α-naphthacridine-8-carboxylic acid (v. Braun and ROHMER), A., 257.

1:2-Dihydronaphthalene-I-sulphonic acid, 1-amino-2-hydroxy-, and 1:2-dihydroxy-, salts of (Fuchs and Pirak), A., 53.

Dihydro-a-naphthols, action of nitrous acid on (Rowe and Levin),

Dihydronaphthyridine picrate (Koller), A., 886. Dihydrongaiol, and its acetate (McDowall), A., 566.

Dihydro-ouabain (Jacobs and Hoffmann), A., 1109. Dihydropentazines, substituted (Stollé), A., 162.

5:10-Dihydrophenarsazine, bromonitro-, and chloronitro- (GIBSON and Johnson), A., 1211.

10-chloro-, and its derivatives (GIBSON and JOHNSON), A., 1210. action of Grignard reagents on (Aeschlimann), A., 368. derivatives of (Burton and Gibson), A., 264.

10-cyano- (GRISCHKEVITSCH-TROCHIMOVSKI, MATEYAK, and ZABLOTSKI), A., 1210.

5:10-Dihydrophenarsazinecarboxylic acids, 10-chloro- (Burron and Gibson), A., 264.

△2:6-Dihydrophthalic anhydride, reduction of (MAZZA and CALÒ), A., 664.

Δ^{2:6}-Dihydrophthalide (MAZZA and CALO), A., 665.

 $\Delta^{2:6}$ -Dihydrophthalimidine, and its derivatives (MAZZA and CALÒ),

Dihydroisoquinoline, ring-closure of derivatives of (Malan and Robinson), A., 1199.

1:4-Dihydroquinoxaline-6-arsinic acids, hydroxy-, and their benzoyl derivatives (EWINS, NEWBERY, and STICKINGS), A., 577.

Dihydrosafrole, bromo- (Robinson and Zaki), A., 1184.

Dihydrositosterol, and its acetyl derivative, distribution of, in plant fats (Anderson, Nabenhauer, and Shriner), A., 388.

Dihydro-y-sitosterol and its acetate (Anderson and Shriner), B., 48.

Dihydrostrophanthidinic acid, derivatives of (Jacobs and Gustus), A., 1194.

Dihydroisostrychnidines (OXFORD, PERKIN, and ROBINSON), A., 1209.

Dihydrostrychnines, and their salts (Oxford, Perkin, and Robinson), A., 1208. cis- and trans-Dihydro-a-terpineols (ZEITSCHEL and SCHMIDT),

A., 772. Dihydrothebaine, derivatives of (Boehringer Sohn and Schöff), (P.), B., 460.

Dihydrothebainolmethine (Schöpf and Borkowsky), A., 1210.

Dihydrothebainone methyl ether, hydroxy-, and its methiodide (Schöpf and Borkowsky), A., 473.

Dihydrothebainonemethine, and its hydriodide (Schöff and Borkowsky), A., 1209.

Dihydrothebaone methyl ether, hydroxy-, and its derivatives (Schöpf and Borkowsky), A., 473.

Di-3-indolyl-p-hydroxy-m-methoxyphenylmethane (MINGOIA), A., 158.

Di-3-indolylmethylenedioxyphenylmethane, and its derivatives (Mingola), A., 158.

Di-3-indolylsulphone (Oddo and Mingola), A., 158.

Di-indolylsulphoxide, derivatives of (ODDO and MINGOIA), A., 158.

Di-isatylbenzophenone (v. Braun and Brauns), A., 258.

2:4-Diketo-1-acetyl-3- β - carbethoxy- β - acetylethylidene- Δ ⁵-cyclohexene-1-carboxylic acid, methyl ester (Feist, Delfs, and LANGENHAMP), A., 151.

2:4 - Diketo - 1 - acetyl - 3 - β - carbomethoxy - β - acetylethylidene - Δ^5 -cyclohexene-1-carboxylic acid, ethyl ester (Feist, Delfs, and

LANGENKAMP), A., 151.

2:4 - Diketo - 1 - benzoyl - 3 - β - carbethoxy - β - acetylethylidene -△5-cyclohexene-1-carboxylic acid, ethyl ester (Feist, Delfs, and LANGENKAMP), A., 151.

1:3-Diketodecahydronaphthalene (Kon and Qudrat-i-Khuda), A., 150.

1:3-Diketodecahydronaphthalene-4-carboxylic acid, ethyl ester

(Kon and Qudrat-i-Khuda), A., 150. 4:5-Diketo-4:5-dihydrobenziminazole, dichloro- and dihydroxy-, and their salts (FRIES, DIECKMANN, and FINGERLING), A., 781.

4:5-Diketo-4:5-dihydrobenz-4':5'-isothiazole, 6-bromo-, and 6:7-dichloro- (FRIES, EISHOLD, and VAHLBERG), A., 782.

6:7-Diketo-6:7-dihydroindazole, 4:5-dichloro-, and 4:5-dihydroxy-, and its diacetate (FRIES and TAMPKE), A., 783.

2:6-Diketodihydrometoxazine (RINKES), A., 652.

1:2-Diketodihydro-β-naphthofuran, 5-hydroxy-. See 4:5-Benzocoumaranone-2:3-dione, 13-hydroxy-.

Diketo-3:4-dihydrophenylpyridinium salts. 2:5:6-*tri*bromo-(ZETZSCHE and SUKIENNIK), A., 365.

Di-2-keto-2:3-dihydro - 3 - pyriminazyl - 2' - hydroxyphenylmethane

(REINDEL and v. PUTZER-REYBEGG), A., 161. Di-2-keto-2:3-dihydro-3-pyriminazylphenylmethane, and its sodium salt and dibenzovl derivative (REINDEL and v. PUTZER-

REYBEGG), A., 161. Di-2-keto-2:3-dihydro-3-pyriminazylphenylmethene, sodium salt (REINDEL and v. PUTZER-REYBEGG), A., 161.

4:5-Diketo-1:2-dimethyl-4:5-dihydrobenziminazole, 6:7-dichloro-(Fries and Abdurrachman), A., 781.

Diketo - 4:7 - dimethyl - 1:2:3:4:7:8:9:10 - octahydrophenanthrolins (MAYER, VAN ZÜTPHEN, and PHILIPPS), A., 574.

2:3-Diketo-4:5-diphenyl-1-cyclohexylpyrrolidine, and its dipotassium salt (SKITA and WULFF), A., 765.

2:3-Diketo-1:5-diphenylpyrrolidine (Skita and Wulff), A.,

4:5-Diketo-1:2-diphenylpyrrolidine, and its derivatives (Bop-FORSS), A., 775.

2:4-Diketohexahydrocyanurin (DIELS and LICHTE), A., 162.

Diketohydrindene (indandione), relationship of, with truxenequinone (Jonesou), A., 669. derivatives, formation of dihydroxynaphthalene derivatives

from (RADULESCU and GHEORGIU), A., 243.

4:5-Diketo-1-p-methoxyphenyl-2-phenylpyrrolidine (Bodforss), A.,

4:5-Diketo-2-methyl-4:5-dihydrobenziminazole, 6:7-dichloro-, and 6:7-dihydroxy-, and its diacetate (FRIES, DIECKMANN, and FINGERLING), A., 781.

5:6-Diketo-2-methyl-4:5:6:7-tetrahydrobenziminazole, 4:4:7:7-tetrachloro-, and its hydrochloride (FRIES and ABDURRACHMAN), A., 781.

a-Diketones, preparation of, from aβ-unsaturated ketones (Dufraisse and Moureu), A., 246, 1173.

γ-Diketones, salt formation by (WEYGAND and FORKEL), A., 971.

acetylenie, action of amines and ammonia on (Dupont; BALLET), A., 1055.

δ-Diketones, unsaturated (Lutz), A., 59, 61, 565.

5:6-Diketo-a-naphthacridine, 8-nitro- (v. Braun and Rohmer),

4:5-Diketo-1-β-naphthyl-2-phenylpyrrolidine (Bodforss),

6:7-Diketo-2-p-nitrophenyl-8:7-dihydrobenztriazole, 4:5-dichloro-(FRIES, SUDHOFF, and BRETTSCHNEIDER), A., 778.

3:4-Diketo-2-o-nitrophenyl-6-o-nitrobenzeneazotetrahydro-1:2:4triazine (WHITELEY and YAPP), A., 344.

3:5-Diketo-2-p - nitrophenyltetrahydro - 1:2:4 - triazine-6-carboxylic acid, urethane derivative of (WHITELEY and YAPP), A., 344.

4:5-Diketo-2-phenyl-1-carboxyphenylpyrrolidines (Bodforss), A.,

4:5 - Diketo - 2-phenyl - 4:5 - dihydrobenziminazole, 6:7 - dichloro-(Fries, Dieckmann, Fingerling, and Fink), A., 781.

5:6-Diketo-1-phenyl-5:6-dihydrobenzthiazole, 4-bromo-(FRIES and Buchler), A., 781.

4:5-Diketo-2-phenyl-4:5-dihydroglyoxaline (MITTAR and SINHA), A., 577.

4:5-Diketo-1-phenyl-2-methyl-4:5-dihydrobenziminazole, chloro- and 6:7-dihydroxy- (Fries, Dieckmann, Fingerling, and FINK), A., 781.

 $\epsilon \eta$ -Diketo-a-phenyl- $\Delta \alpha \gamma$ - octadiene. See Cinnamylideneacetylacetone.

5:6-Diketo-1-phenyl-3:4:5:6-tetrahydrobenzthiazole. 3:3:4:4-tetrachloro- (FRIES and BUCHLER), A., 782.

2:4-Diketo-3-phenyl-1:2:3:4-tetrahydroquinazoline (Reissert and Schaaf), A., 62.

3:5-Diketo - 2 - phenyltetrahydro-1:2:4-triazine, derivatives (WHITELEY and YAPP), A., 344.

2:5-Diketopiperazine, fission of, by acids and alkalis (YAITschnikov), A., 676.

Diketopiperazines (ABDERHALDEN and ROSSNER), A., 576. absorption spectra of (ABDERHALDEN and HAAS), A., 6.

dehydration of (BERGMANN and MIEKELEY), A., 1202.

compounds of, with amino-acids (Pfeiffer, Angern, and WANG; ABDERHALDEN and SCHWAB), A., 676.

2:5-Diketopiperazines, behaviour of, in the body (Abderhalden and BUADZE), A., 276.

determination of, in presence of amino-acids and peptides (Blanchetière), A., 269.

Diketosuccinic acid, and its anhydride and ethyl ester, phenylhydrazones and -osazones of (Chattaway and Humphrey), A., 776.

2:4-Diketo-1:2:3:4-tetrahydro-9-methoxyquinoline-1:3-diazine, and its salts (Tröger and Cohaus), A., 1087.

3:4-Diketotetrahydrotoluene, pentachloro- (Qvist), A., 1066.

3:5-Diketo-6-p-tolueneazo-2-p-tolyltetrahydro-1:2:4-triazine (WHITELEY and YAPP), A., 344.

6:7-Diketo - 2 - p - tolyl - 6:7 - dihydrobenztriazole, 4:5 - dichloro-(FRIES, SUDHOFF, and BRETTSCHNEIDER), A., 778.

4:5-Diketo-1-p-tolyl-2-phenylpyrrolidine (Bodforss), A., 775.

3:5-Diketo - $\bar{2}$ - p - tolyltetrahydro - 1:2:4 - triazine - 6 - carboxylic acid, urethane derivative of (WHITELEY and YAPP), A., 344.

Dilactone, C10H12O8, and its derivatives, from condensation of pyruvic acid with paraformaldehyde (FEOFILARTOV), A., 132.

Dilatometer, differential, for determination of volume change during solidification (SMITH), A., 954.

dl-Dileucyl-l-cystine anhydride (ABDERHALDEN and ROSSNER), A., 576.

Dill seed oil (IMPERIAL INSTITUTE), B., 618.

Dilution formula, experimental agreement of (Ferguson and Vogel), A., 1025.

 ${f Dimagnesium}$ acetylene di bromide, action of cyanogen bromide on (Nekrassov), A., 1051.

Dimargarins (THOMSON), A., 540.

Dimethoxyacenaphthenequinones, and their derivatives (LESSER and GAD), A., 247.

Dimethoxyacetophenones, ωωω-trichloro- (HOUBEN and FISCHER), A., 1079.

hydrochloride 5:6-Dimethoxy-6-aminobenzylidenecoumaranone (FEIST and SIEBENLIST), A., 671.

3:5-Dimethoxyaniline, and its acetyl derivative (OAKESHOTT and PLANT), A., 356.

1-mm'-Dimethoxyanilino-1-cyanocyclopentane (OAKESHOTT and

PLANT), A., 356. 1:2-Dimethoxyanthraquinone, 5-hydroxy- (Puntambeker and

Adams), A., 362. 1:2-Dimethoxy-9-anthrone, 5-hydroxy- (Puntambeker and ADAMS), A., 362.

3:4-Dimethoxy-6-β-benzamidoethylbenzoic acid (Späth and LEITHE), A., 471.

4:4'-Dimethoxymesobenzdianthrone, and 3:3'-dibromo- (Eckert and HAMPEL), A., 882.

- 2:4-Dimethoxybenzoic acid, 5-bromo-, and its methyl ester (RICE),
- 3-nitro-, and its methyl ester (Dadswell and Kenner), A., 457.
- 3:4-Dimethoxybenzoylacetone (TASAKI), A., 1078.
- 2:4-Dimethoxybenzoylacrylic acid, 5-bromo (RICE), A., 150.
- 2:5-Dimethoxybenzylidineglycine anhydride (Hural), A., 1188. 6:7-Dimethoxy-1-benzylisoquinoline (Mannion and Walther),
- A., 579.
- 5:6-Dimethoxy-2-(5'-bromo-2'-hydroxy-3'-methoxyphenyl)phthalide (Puntambeker and Adams), A., 362.
- 5:6-Dimethoxy-2-(5'-bromo-4'-hydroxy-3'-methylphenyl)phthalide (BRUBAKER and ADAMS), A., 1071.
- 5:6-Dimethoxy-2-(3'-bromo-4'-hydroxyphenyl)phthalide (BRU-BAKER and ADAMS), A., 1071.
- 5:6 Dimethoxy 2 bromomethoxyphenylphthalides (Brubaker and Adams), A., 1071.
- 2:5 Di (4' methoxy 2' carboxyanilino) p benzoquinone (Lewicka), A., 575.
- 3:6-Dimethoxy-9-chloro-oo'-diphenylylenearsine (Gottlieb-Billкотн), А., 368.
- 5:6-Dimethoxycoumaranone (Feist and Siebenlist), A., 671.
- Dimethoxycoumarinoline (FEIST and SIEBENLIST), A., 671.
- 4:4'-Dimethoxy-1:1'-dianthraquinonyl, and 3:3'-dibromo- (Eckert and Hampel), A., 882.
- 4:4'-Dimethoxydiazoaminobenzene, 3:5:3':5'-tetrabromo- (HALL and GIBBS), A., 1181.
- 3:3'-Dimethoxy-4:4'-dibenzyloxydistyryl ketones, and their tetrabromide (Dickinson, Heilbron, and Irving), A., 972.
- 3:3'-Dimethoxy-4:4'-diethoxydistyryl ketone (Diokinson, Heil-BRON, and IRVING), A., 972.
- NN'-Dimethoxydiethylmalonamide (Jones and Major), A., 754.
- 3:11-Dimethoxydihydroprotoberberine, and its salts (CHAK-RAVARTI, HAWORTH, and PERKIN), A., 1096.
- 5:6-Dimethoxy-3:4-dihydroisoquinoline, and its methiodide (HAWORTH), A., 1085.
- 6:7-Dimethoxy-3:4-dihydroisoquinoline, salts of (Spätn and Erstein), A., 164.
- 5:6-Dimethoxy-5:6-dihydrouracil, 6-chloro-5-hydroxy-, and hydr-OXY- (BILTZ, PAETZOLD, and NACHTWEY), A., 259.
- 4:5-Dimethoxy-2-dimethylaminomethylbenzoic acid, and its chloroplatinate (v. Bruchhauser and Stippler), A., 683.
- 5:5-Dimethoxy-1:3-dimethyl-5:6-dihydrouracil, 6-bromo-, 6-chloro-, and hydroxy- (BILTZ, PAETZOLD, and NACHTWEY), A., 259.
- 3:4'-Dimethoxy-6:8-dimethylflavylium salts, 5-hydroxy- (Robertson and Robinson), A., 1084.
- 4":4"-Dimethoxy-5:5'-dimethyltetraphenylsuccinodilactone, 2:2'dihydroxy- (Löwenbein and Schmidt), A., 1072.
- 2:2'-Dimethoxydiphenyl, 3:3':5:5'-tetranitro-(Borsche and Feske), A., 661.
- 3:3'-Dimethoxydiphenyl, 4-mono-, and 4:4'-di-chloro- (Gottlieb-Вплютн), А., 368.
- 4:4'-Dimethoxydiphenyl 2:2' dihydroxy 1:1' dinaphthylsuccinodilactone (Löwenbein and Schmidt), A., 1073.
- 3:6-Dimethoxy-oo'-diphenylylenearsinic acid and 2:4:5:7-tetranitro- (Gottlieb-Billroth), A., 368.
- 3:3'-Dimethoxydistyryl ketone, 4:4'-dihydroxy-, and its salts (Glaser and Tramer), A., 972.
- 3:4-Dimethoxy-4-ethoxystyryl methyl ketone, dimerido (Dickinson, Heilbron, and Irving), A., 972.
- 3-isonitroso-derivative 3':4'-Dimethoxyflavanone, andits (HATTORI), A., S84.
- 3':4'-Dimethoxyflavone (HATTORI), A., 884.
- 3':4'-Dimethoxyflavonol, and its mothyl ether (HATTORI), A., 884. 3':4'-Dimethoxyflavylinm chloride, and 5:7-dihydroxy- (Pratt, ROBERTSON, and ROBINSON; ROBERTSON and ROBINSON),
- A., 1084. 3:4-Dimethoxyhomophthalic acid, anhydride of, and 6-bromo-(HAWORTH, KOEPFLI, and PERKIN), A., 472.
- 6:7-Dimethoxy-1-hydrindone, 4-bromoand its isonitrosoderivative (HAWORTH, KOEPFLI, and PERKIN), A., 472.
- 5:6-Dimethoxy-2-(p-hydroxybenzyl)benzoic acid (Brubaker and Adams), A., 1072.
- 5:6-Dimethoxy-2-(hydroxy-m-methylbenzyl)benzoic acids (BRU-BAKER and ADAMS), A., 1072.
- 2:4-Dimethoxyhydroxymethyleneacetophenone, copper (Pratt, Robertson, and Robinson), A., 1034. derivatives
- 5:6-Dimethoxy-2-(4'-hydroxymethylphenyl)phthalides (Brubaker and ADAMS), A., 1071.
- 5:8-Dimethoxy-2-o-hydroxyphenylphthalide, and its methyl ether (Brubaker and Adams), A., 1071.

- Dimethoxyindigotins, dinitro- (TRÖGER and EICKER), A., 768.
- 5:6-Dimethoxyindole, and its 2-carboxylic acid (RAPER), A., 278. synthesis of, and its I-acetyl derivative (Oxford and RAPER), A., 365.
- 5:6-Dimethoxy-2(methoxybenzyl)benzoic acids (BRUBAKER and Adams), A., 1072
- 5:6-Dimethoxy-2(o-methoxy-p-methylhenzyl)benzoic acid (BRU-BAKER and ADAMS), A., 1072.
- 5:6-Dimethoxy-2-p-methoxyphenylphthalide (Brubaker and Adams), A., 1071.
- 2:4-Dimethoxy-1-methylanthraquinone (Stouder and Adams), A., 972.
- 2:5-Dimethoxy-6-methyl-9-anthrone (BHATTACHARYA and SIMON-
- sen), A., 882 2:6-Dimethoxy-4-methylbenzaldehyde, and its p-nitrophenylhydrazone (Robertson and Robinson), A., 1084.
- 2:6-Dimethoxy-4-methylbenzoyl chloride, and its derivatives (Robertson and Robinson), A., 1084.
- 3:4-Dimethoxy-a-methyloinnamaldehyde, 6-nitro- (Willistoff and
- SIMPSON), A., 257. 2:4'-Dimethoxy-3-methyldiphenylmethane-6-carboxylic acid (Bhat-
- TACHARYA and SIMONSEN), A., 882. 3:3'-Dimethoxy-a-methyldistyryl ketone (IWAMOTO), A., 566.
- aμ-Dimethoxy-β-methyldodecane (Chuit, Boelsing, and Malet), A., 446.
- 5:6-Dimethoxy-3':4'-methylenedioxy-1-benzoyl-3:4-dihydroisoquinoline, 6'-bromo- (HAWORTH), A., 1085.
- 5:6-Dimethoxy-3':4'-methylenedioxy-1-benzyl-3:4-dihydroisoquinoline, 6'-bromo- (HAWORTH), A., 1085.
- 6:7-Dimethoxy-1-(3':4'-methylenedioxybenzyl)-3:4-dihydroisoquinoline, and its methiodide (KITASATO), A., 1095.
- 6:7-Dimethoxy-1-(3':4'-methylenedioxybenzyl)-2-methyl-1:2:3:4-methyl-1:2:3:4-methyl-1:2:3:4-methylenedioxybenzyl)tetrahydroisoquinoline, and its sulphate and derivatives (KITAsato), A., 1095.
- 6:7-Dimethoxy-1:3':4'-methylenedioxybenzylisoquinoline (Mannich and Walther), A., 579.
- 2:4'-Dimethoxy-3-methylphenylphthalide (Bhattacharya and Simonsen), A., 882.
- 6:7-Dimethoxy-3-methylquinoline, and its salts (WILLINGTT and Simpson), A., 257.
- 5:6-Dimethoxy-2-methyl-1:2:3:4-tetrahydroisoquinoline, and its salts, and 8-nitro- (HAWORTH), A., 1085.
- 4:4'-Dimethoxymesonaphthadianthrone, and 3:3'-dibromo-(Eckert
- and HAMPEL), A., 882.
- 2:4-Dimethoxy-1:8-naphthyridine (Koller), A., 886.
- 4:5-Dimethoxyphenylacetic acid, 2-nitro- (Oxford and RAPER),
- 3:4-Dimethoxyphenyl β -p-anisylethyl ketone (Tasaki), A., 1078. 5:7-Dimethoxy-2-phenylbenzopyrylium chloride, 3-hydroxy- (KAR-
- RER), A., 1197. 3:4-Dimethoxyphenylisobutaldehyde, β-hydroxy-β-6-nitro- (Willi-
- MOTT and SIMPSON), A., 257. Dimethoxy-3-phenylcoumarins (Bargellini), A., 883.
- 3-mp-Dimethoxyphenyl-5-mp-dimethoxystyryl- Δ 5-cyclohexen-1one, and its semicarbazone (Dickinson, Heilbron, and Irving),
- A., 971. $3-mp\text{-} \texttt{Dimethoxyphenyl-5-} mp\text{-} \texttt{dimethoxystyryl-} \varDelta^5\text{-} cyclo \texttt{hexen-1-}$ one-2-carboxylic acid, ethyl ester (Diokinson, Heilbron, and
- IRVING), A., 972. β -2:3-Dimethoxyphenylethylamine, and its salts and N-formyl
- derivative (HAWORTH), A., 1085. β -3:4-Dimethoxyphenylethyldimethylamine, and its salts (Kind-
- LER), A., 760.
- Di-o-methoxyphenylketipinodinitrile, and its dilactone (Piutti and Mazza), A., 1072.
- 4':7-Dimethoxy-2-phenyl-5-methylbenzopyrylium salts (Hirst), A., 1189.
- 2:5-Dimethoxyphenyl β -phenylethinyl ketone (Simonis and Danischewski), A., 154.
- β -2:3-Dimethoxyphenylpropiomic acid, amide of (Haworth), A., 1085.
- 2:5-Dimethoxyphenylpropionic acid (FICHTER and SCHLAGER), A., 4:5-Dimethoxyphenylpyruvic acid, 2-nitro-, and its phenylhydr-
- azone (Oxford and Raper), A., 365. 6:7-Dimethoxy-1-phenylisoquinoline picrate (Rosenmund, Noth-
- NAGEL, and RIESENFELDT), A., 368. Dimethoxyphenyl styryl ketones (SIMONIS and DANISCHEWSKI),
- A., 154. 3:4-Dimethoxyphenylthioacetdimethylamide (Kindler), A., 759.

Dimethoxyphenylthiocarbamides (Dyson, George, and Hunter),

Dimethoxyphenylthiocarbimides (Dyson, George, and Hunter), A., 351.

3:4-Dimethoxyphenyl 2:4:6-trimethoxybenzyl ketone (Freuden-BERG and HARDER), A., 251.

 β -(2':4'-Dimethoxyphenyl)-3:4:5-trimethoxycinnamic acid (BAR-GELLINI and GRIPPA), A., 465.

 β -3:4-Dimethoxyphenyl- α -2:4:6-trimethoxyphenylpropane (FREUDEN-BERG and HARDER), A., 251.

 β - 3:4 - Dimethoxyphenyl - α - 2:4:6 - trimethoxyphenyl - $\Delta \alpha$ - propylene (FREUDENBERG and HARDER), A., 251.

5:6-Dimethoxyphthalide, 3-cyano- (Tasman), A., 1186. βy-Dimethoxypropane, α-chloro- (Blanchard), A., 853.

3:11-Dimethoxyprotoberberine, and its salts (Charravarti, Haworth, and Perkin), A., 1096.

6:7-Dimethoxyprotopapaverine. See 6:7-Dimethoxy-1-benzylisoquinoline.

Di-o-methoxypulvinic acid, and its methyl ester (Piutti and MAZZA), A., 1072.

Di-(8-methoxyquinazoline-2-carboxyl)imide, and its salts (Tröger and Bohnkamp), A., 1201.

3':4'-Dimethoxystilbene, 4-chloro-2-amino-, 4-chloro-2:6-diamino-, 4-chloro-2-nitro-, 4-chloro-2:6-dinitro-, and 2-nitro-4-amino-, and its hydrochloride, and their acetyl derivatives (ASHLEY), A., 53. 3:4-Dimethoxystyryl methyl ketone semicarbazone (Dickinson,

Heilbron, and Irving), A., 971.

3:3':4'-Dimethoxystyryl-β-naphthapyrylium chloride (Dickinson and Heilbron), A., 252.

Dimethoxysuccinic acid, bornyl esters of (Patterson, Fulton, and SEMPK), A., 249.

Dimethoxysuccinic acids, derivatives of (HAWORTH and JONES), A., 1059.

3:11-Dimethoxytetrahydroprotoberberine, and its salts (Chakra-VARTI, HAWORTH, and PERKIN), A., 1096.

2:4-Dimethoxytoluene, 5-nitro-(Dadswell and Kenner), A., 456. aa-Di-(6-methoxy-m-tolyl)ethane, $\beta\beta$ -dibromo-, $\beta\beta\beta$ -tribromo-, and $\beta\beta\beta$ -trichloro- (Harris and Frankforter), A., 139.

aa-Di-(6-methoxy-m-tolyl)ethylene, β-bromo-(Harris and Frank-FORTER), A., 139.

Di-o-methoxyvulpinic acid, and its derivatives (PIUTTI and MAZZA), A., 1072.

Dimethyl ether. See Methyl ether.

Dimethylacenaphthenequinones, and their derivatives (Lesser and GAD), A., 247.

ac-Dimethylacetoacetic acid, methyl ester, oxime of, and its derivatives (Billon), A., 879.

2:5-Dimethylacetophenone, derivatives of (BLAISE and HERZOG), A., 646.

Dimethylacrylic acid, esters of (Skraup and Beng), A., 560. o-ββ-Dimethylacrylylphenol, and its phenylhydrazone (Skraup and Beng), A., 560.

 $\beta\beta$ -Dimethyladipic acids (Vocel), A., 959.

Dimethylallophanic acid, derivatives of (SLOTTA and TSCHESCHE), A., 346.

NN'-Dimethylallophanyl cyanide (SLOTTA and TSCHESCHE), A., 548. Dimethylaminoacetisoamylamide, and its salts (v. Braun and Müncн), А., 344.

β-Dimethylamino-β-anisylisopropyl alcohol, and its derivatives (Mannich), (P.), B., 507.

p-Dimethylaminobenzaldehyde, condensations of (Tноиз and Seebe), A., 153.

p-Dimethylaminobenzaldehyde cyclohexylhydrazone, and its hydrochloride and dioxide (Busch and LINSENMEIER), A., 455.

methiodide (Madelung and Völker), A., 55; (Fairbourne and Woodley), A., 152.

phenyl- and o-tolyl-cyclohexylhydrazones (Busch and Haase), A., 554.

p-Dimethylaminobenzaldoxime N-methyl ether, and its salts (LINDEMANN and TSCHANG), A., 1074.

4-Dimethylaminobenzeneazo-2'-fluorene (Korczyński, Karlow-SKA, and KIERZEK), A., 348.

4-Dimethylaminobenzeneazo-2'-fluorenone (Korczyński, Kar-LOWSKA, and KIERZEK), A., 348. 1-Dimethylaminobenzthiazole, and chloro-, and their bromides

(HUNTER and STYLES), A., 680. p-Dimethylaminobenzylideneacetone, reduction of (Thoms and

Seebe), A., 153. 2-(p-Dimethylaminobenzylideneamino)-5-dimethylamilinethiosul-

phuric acid (BOGERT and UPDIKE), A., 680. 21

p-Dimethylaminobenzylideneaniline methiodide (Madelung and Völker), A., 55.

p-Dimethylaminobenzylidenemethylamine, and its salts (MADE-LUNG and VÖLKER), A., 55.

p-Dimethylaminobenzylidenepentaerythritol, and its methiodide (FAIRBOURNE and WOODLEY), A., 152.

3-p-Dimethylaminobenzylidenepyriminazol-2-one, and its hydrochloride (REINDEL and v. PUTZER-REYBEGG), A., 161. p-Dimethylaminocinnamic acid, menthyl ester, and its methiodide

(McCluskey and Sher), A., 363. 4-p-Dimethylaminocinnamoylacetophenone (FINGER and SCHOTT),

A., 668. α -Dimethylamino- $\alpha\beta$ -dibenzoylethylene (Ballet), A., 1055.

 β -Dimethylamino- β -3:4-dimethoxyphenylisopropyl alcohol, and its derivatives (Mannich), (P.), B., 507.

 δ -Dimethylamino- γ -dimethylaminomethylbutan- β -one, and its salts (Mannich and Curtaz), A., 231.

β-Dimethylaminodimethyldiethylammonium picrate (Hanhart and Ingold), A., 651.

4'-Dimethylaminodiphenylamine-6-carboxylic acid, 4-amino-, and its derivatives, and 4-nitro-, potassium salt (Goldstein and Piolino), A., 558.

3-Dimethylamino-5:5-diphenyldihydroacridine hydrochloride (Goldstein and Piolino), A., 575.

3-Dimethylamino-5:5-diphenyldihydroacridine-7-immonium chloride (Goldstein and Piolino), A., 575.

pp'-Dimethyldiaminodiphenylmethane, and its derivatives (Kuhn. JACOB, and FURTER), A., 870.

1-Dimethylamino-5-ethoxybenzthiazole, and its tetrabromide (HUNTER and STYLES), A., 680. $\beta\beta'$ -Dimethylaminoethoxyethyl β -hydroxyethyl ether, and its

salts (Fourneau and Ribas), A., 1052.

 β -Dimethylaminoethyl β -hydroxyethyl, β -hydroxy- β -methyl-n-butyl, and β -dimethylamino- β -hydroxypropyl ethers, and their salts (Fourneau and Ribas), A., 1052.

β-Dimethylaminoethylacetoacetio acid, ethyl ester (Farben-Fabr. vorm. Bayer & Co.), (P.), B., 379.

Dimethylaminocyclohexyl p-amino- and p-nitro-benzoate hydro-chlorides (Heckel and Adams), A., 662. 8- $(\delta$ -Dimethylamino- β -hydroxy*iso*amylamino)- θ -methoxyquinoline

(FARBENFABR. VORM. BAYER & Co.), (P.), B., 379. y-Dimethylamino-a-hydroxy-n-butyronitrile salts (CRAWFORD and

Kenyon), A., 343. γ -Dimethylamino- α -hydroxy- $\alpha\beta$ -dimethylbutyric acid, ethyl ester.

and its benzoate (I. G. FARBENIND.), (P.), B., 429. γ-Dimethylamino-α-hydroxy-α-methylbutyric acid, and its derivatives

(I. G. FARBENIND.), (P.), B., 429. 7-Dimethylamino-1-ketotetrahydronaphthalene, and its salts (v.

BRAUN and JUNGMANN), A., 258. 1-Dimethylamino-5-methoxybenzthiazole, and its tetrabromide

(Hunter and Styles), A., 680. 1-Dimethylamino-5-methylbenzthiazole, and its bromides (HUNTER

and Styles), A., 680.

 γ -Dimethylaminomethylbutan- β -one, and its salts (Mannich and Curtaz), A., 231. β -Dimethylamino-p-3:4-methylenedioxyphenylisopropyl

alcohol. and its derivatives (Mannich), (P.), B., 507.

a- and β-Dimethylaminomethylcyclohexanols, and their salts and derivatives (Mannich), A., 659.

 γ -Dimethylaminomethyl- $\Delta \epsilon$ -hexen- β -one, and its salts (Mannich and Curtaz), A., 231.

 γ -Dimethylaminomethyl- $\Delta \epsilon$ -hexen- β -one- γ -carboxylic acid, ethyl ester, and its hydrobromide (Mannich and Gollasch), A., 572.

2-Dimethylamino- β -naphthathiazole, and its tetra bromide (HUNTER and STYLES), A., 680.

a-p-Dimethylaminophenylbutan-y-ol (Thoms and Seebe), A., 153. 2-(p-Dimethylaminophenyl)-6-dimethylaminobenzthiazole (Bogert and Updike), A., 680.

4-Dimethylamino-1-phenyl-2:3-dimethyl-5-pyrazolone. Pyramidone.

 β -p-Dimethylaminophenylethyl methyl ketone (Thoms and Seebe), A., 153.

Dimethylaminophenylgermanic acid anhydride (Ornborff, TABERN, and DENNIS), A., 1211.

9-Dimethylaminophenylmethylanthracene, -1:5-dichloro-NETT, Cook, and Matthews), A., 140. p-Dimethylaminophenylthiocarbamide (Dyson, George,

HUNTER), A., 351. p-Dimethylaminophenylthiocarbimide (Dyson, George, and

Hunter), A., 351.

Dimethylaminopyridine, derivatives of (TSCHITSCHIBABIN and Konovalova), A., 466.

2:6-Dimethylaminopyrimidine, and 4-chloro-, and its hydrochloride (WINKELMANN), A., 678.

4'-Dimethylaminostilbene, 2:4-dinitro-, and its chloroplatinate (NISBET), A., 1063.

3-p-Dimethylaminostyryl- β -naphthapyrylium perchlorate (Dickinson and Heilbron), A., 252

2-Dimethylaminotetrophan (v. Braun and Jungmann), A., 258. Dimethylaniline, action of chlorides of antimony, arsenic, and

phosphorus on (RAUDNITZ and HELLER), A., 454. hydrochloride, m-bromo-p-nitroso- (v. Auwers and Bull-MANN), A., 145.

Dimethylaniline, 3:5-dichloro-4-nitro- (Hodgson and Wignall), A., 1064.

3-halogeno-4-nitroso-, reaction of, with alkali hydroxides (Hodgson and Wignall), A., 656.

3-iodo- and 3-iodo-4-nitroso- (Hodgson and Wignall), A., 656. Dimethyl-d-arabonolactone, and its p-bromophenylhydrazide (Gustus and Lewis), A., 752.

2:2'-Dimethyl-3:3'-arsenoquinoline dihydrochlorides (Binz and Räth), A., 580.

2:2'-Dimethyl-4:5'-azoindazole, 5-hydroxy-, and its acetyl derivative (Fries and Tampke), A., 783.

Dimethylbarbituric acid, condensation products of, with aldehydes (Akabori), A., 1087.

1:3-Dimethylisobarbituric acid (BILTZ, PAETZOLD, and NACHT-WEY), A., 259.

4:6-Dimethylbenzaldoxime, 2-hydroxy-, and its acctate (Linde-MANN and Pickert), A., 980.

2:6-Dimethylbenzamide (BERGER and OLIVIER), A., 1185.

Dimethylbenzamidine, and its dihydrochloride (VUYLSTEKE), A., 346. NN'-Dimethylbenzidine, derivatives of (Kuhn, Jacob, and FURTER), A., 869.

1:2-Dimethylbenziminazole, 5-amino-, and 5-nitro-, and their derivatives (Fries and Ardurrachman), A., 781.

2:5-Dimethylbenziminazole, 7-amino-, and its salts and acetyl derivatives (LINDEMANN and KRAUSE), A., 469.

2:5-Dimethyl-7-benziminazoleazo-β-naphthol (Lindemann and (KRAUSE), A., 469.

2:5-Dimethyl-7-benziminazoleazo-β-naphthylamine (LINDEMANN and KRAUSE), A., 469.

1:2-Dimethyl-5:6-benzocoumaran-3:4-quinone (FIESER), A., 463.

4:7-Dimethyl-\(\psi\)-benzo-1:8-isonaphthoxazone, and its salts and derivatives (Dey, Sarkar, and Seshadri), A., 63.

4:6-Dimethylbenzonitrile, 2-hydroxy-, and its acctate, and 5-nitro-2-hydroxy- (LINDEMANN and PICKERT), A., 980. 1:7-Dimethylbenzpyrazolone (STOLLE, NIELAND, and MERKLE),

A., 885. 3:6-Dimethylbenzyl bromide, 2:5-dibromo-4-hydroxy-, condens-

ation products of (v. Auwers and Bullman), A., 144. ay-Dimethylbiuret, α-nitroso- (SLOTTA and TSCHESCHE), A., 346.

Dimethylbutadiene, preparation of (CALVERT), A., 130. and $\beta\beta$ -chloronitroso-

γγ-Dimethylbutane, ββ-chloronitro-, (RHEINBOLDT and DEWALD), A., 852. cis- and trans-Dimethylcyclobutane-1:4-dicarboxylic acids, and

their derivatives (Vogel), A., 959. 2:3-Dimethylcyclobutane-1:1:4:4-tetracarboxylic acid, and its ethyl

ester (Vogel), A., 959.

βy-Dimethylbutane-aαδδ-tetracarboxylic acids, and their derivatives (Vogel), A., 959.

 $\beta\beta$ -Dimethylbutyl alcohol, γ -amino-, and its ethyl ether (Billon), A., 879.

1:3-Dimethyl-5-tert.-butylbenzenesulphonyl chloride and fluoride. and dinitro- (STEINKOPF), A., 964.

 $\beta\beta$ -Dimethylbutyric acid, a-bromo- (ABDERHALDEN and ROSSNER),

Di- α -methylbutyrylboric acid, di- α -hydroxy-, brueine salt (Böese-KEN, MULLER, and JAPHONGJOUV), A., 133.

Dimethylcarbamyl azide (Stollé, Nieland, and Merkle), A., 1204. 3:8-Dimethylchromanone, and its semicarbazone (v. Auwers, BAUM, and LORENZ), A., 670.

aβ-Dimethylcinnamic acid, and its ethyl ester (v. Braun and STUCKENSCHMIDT), A., 258.

4:6-Dimethylcoumarandione, phenylhydrazones of, and their derivatives (v. Auwers and Herbener), A., 156.

Dimethylcoumaranone semicarbazone, and 4-chloro- (v. Auwers, BAUM, and Lorenz), A., 670.

2:5-Dimethylcoumaranone, 2-thioeyano (v. Auwers and LORENZ), A., 61.

2:5-Dimethylcoumaranylmalonic acid, and its ethyl ester (v. AUWERS and LORENZ), A., 61.

Dimethylcyanamide, action of magnesium organic compounds on (VUYLSTEKE), A., 346.

5:9-Dimethyldecahydronaphthalen-3-one (Ruzicka and Capato), A., 570.

 $\epsilon \iota$ -Dimethyl- $\Delta \theta$ -decene, α -bromo- (Ruzicka), A., 1170.

δθDimethyl-Δθ-decenoic acid. See Citronellylacetic acid.

ει-Dimethyl-Δθ-decen-α-ol (Ruzicka), A., 1170.

1:3-Dimethylisodialuric acid phenylhydrazone (BILTZ, PAETZOLD, and Nachtwey), A., 259.

S-Dimethyldi-β-benzoylvinylhydrazine (v. Auwers and Mauss), A., 362.

 $\beta\beta'$ -Dimethyldi-n-butyl sulphide, $\beta\beta'$ -dihydroxy- (Major), A., 766. 9:9'-Dimethyl-3:3'-dicarbazyl (MAITLAND and TUCKER), A., 776.

2:4-Dimethyl-3- $\beta\beta$ -dicarbethoxyethylpyrrole-1-carboxylic derivatives of (FISCHER and HEISEL), A., 1089.

Dimethyldiethylammonium salts, β -chloro- and (Hanhart and Ingold), A., 651. β-hydroxy-

hydrogen carbonate (STEWART and ASTON), A., 862.

10:10-Dimethyl-5:10-dihydrophenarsazine (Aeschlimann), A., 368. 1:3-Dimethyl-5:6-dihydrouracil, 5:5:6-trihydroxy- (Biltz, Paet-ZOLD, and NACHTWEY), A., 259.

Dimethyl-4:5-dihydrouric acid, and its sodium salt, and 4:5-diehloro- (BILTZ and BÜLOW), A., 1091; (BILTZ, KRZIKALLA, and SLOTTA), A., 1092.

Dimethyl diketone (diacetyl), formation of, from carbohydrates (Schmalfuss and Barthmeyer), A., 648.

phytochemical reduction of (NAGELSCHMIDT), A., 902. action of, on magnesylpyrrole (NARYSCHKIN), A., 1089.

δ-aminosemicarbazone (Brown, Pickering, and Wilson), A.

determination of (VAN NIEL), A., 1101.

3:3'-Dimethyldi-β-naphthaspiropyran (Dickinson and Heil-BRON), A., 884.

2:2'-Dimethyldiphenyls (2:2'-ditolyls), 6:6-diamino-, and their diacetyl derivatives (Meisenheimer and Höring), A., 766.

3:3'-Dimethyldiphenyl (3:3'-ditolyl), 4:4'-dichloro-6-amino- (I. G. FARBENIND.) (P.), B., 213.

3:6-Dimethyldiphenylamine, 2:4-dinitro- and 4-nitro-2-amino-, and its acetyl derivative (FRIES and ARNEMANN), A., 779. 2:5-Dimethyldiphenylamine-1'-carboxylic acid, 4-bromo- (Lés-

niański and Czerski), A., 577. NN'-Dimethyldiphenylbenzidine (MAITLAND and TUCKER), A.,

6:6'-Dimethyl-3:3'-diisopropyltriphenylmethane, 4:4'-dihydroxy-,

and its diacetate and dimethyl ether (ORNDORFF and LACEY),

ηλ-Dimethyl-Δκ-dodecene, α-bromo- (Ruzicka), A., 1170.

ζκ-Dimethyl-Δ'-dodecenoic acid, and its ethyl ester (Ruzicka), A., 1170.

 $\eta\lambda$ -Dimethyl- Δ *-dodecen- α -ol (Ruzicka), A., 1170.

p-Di-3:4-methylenedioxycinnamoylbenzene (FINGER and SCHOTT), A., 668.

Di-3:4-methylenedioxyphenylketipinodinitrile (Piutti and Mazza), A., 1072.

Di-3:4-methylenedioxypulvinic acid, and its methyl ester (PIUTTI and MAZZA), A., 1072.

Di-3:4-methylenedioxyvnlpinic acid, and its piperidine salt and derivatives (PIUTTI and MAZZA), A., 1072.

Dimethylethylammonium pierate, β-chloro- (HANHART and INGOLD), A., 651.

αy-Dimethyl-ε-ethylbiuret (SLOTTA and TSCHESCHE), A., 346.

Dimethylethylene sulphoxides (Bell and Bennett), A., 958. Dimethylethylethylenediammonium picrate (Hanhart Ingold), A., 651.

Di(methyl ethyl ketone) carbohydrazone (Brown, Pickering, and Wilson), A., 232.

1:4-Dimethyl-7-ethyl-β-naphthol, and its methyl ether (Bertolo), A., 149.

 $\beta\delta$ -Dimethyl- γ -ethylpentan- γ -ol (STAS), A., 46.

Dimethylethyl-n-propylammonium salts (HANHART and INCOLD), A., 650.

3:5-Dimethyl-4-ethylpyrryl-(3-carbethoxy-2:4-dimethylpyrrolenyl)methene (FISCHER, HALBIG, and WALACH), A., 470.

2:4-Dimethyl-3-ethyl-5-pyrrylglyoxylic acid, and its ethyl ester (FISCHER, HALBIG, WALACH, SCHUBERT, and OSSENBRUNNER), A., 470.

Di(methyl ethyl selenoketone) (Lyons and Bradt), A., 449. Dimethylflavanones (Simonis and Danischewski), A., 154. 6:8-Dimethylflavylium salts, 3:5:4'-tri- and 3:5:3':4'-tetra-hydroxy-(Robertson and Robinson), A., 1084.

ββ-Dimethylglutarimide (SIRCAR), A., 451.

Dimethylglyoxal hydrazones and osazones (Vorländer, Zen, and Enderlein), A., 554.

1:3-Dimethylglyoxalone (BILTZ and BÜLOW), A., 1091.

1:3-Dimethylglyoxalone-5-carboxylic acid, and its silver salt and methyl ester (Biltz and Bülow), A., 1091.

Dimethylglyoxime, preparation of (Rekschinski), A., 544. detection of nickel by means of, in presence of ferrous iron (KRAUS), A., 746.

Dimethylglyoxylidenediamsidine (Vörlander, Zeh, and Ender-LEIN), A., 554.

Dimethylglyoxylidenediphenetidine (Vörlander, Zeh, and Ender-LEIN), A., 554.

Dimethylguanidine, nitro- (DAVIES and LUCE), A., 1059. λο-Dimethyl-Af-heptadecenoic acid (Ruzicka), A., 1170.

λο-Dimethyl-Δε-hexadecene, a-bromo- (Ruzicka), A., 1170.

 $\kappa\xi$ -Dimethyl- $\Delta\nu$ -hexadecenoic acid, and its ethyl ester (RUZICKA), A., 1170.

 λ_0 -Dimethyl- $\Delta \xi$ -hexadecen- α -ol (Ruzicka), A., 1170.

 $\beta\epsilon$ -Dimethyl- $\Delta\beta\delta$ -hexadiene, α -bromo- (Prévost), A., 749. $\beta\epsilon$ -Dimethyl- $\Delta\beta\delta$ -hexadien- α -ol, and its acetate (Prévost), A., 749.

 $\beta\epsilon$ -Dimethylhexane (Lewis and Fleming), A., 440.

1:2-Dimethylcyclohexane, ww-dihydroxy- (WIELAND, SCHLICHting, and v. Langsdorff), A., 243.

Dimethylcyclohexanedione, compounds of, with aromatic aldehydes (Bernardi), A., 563.

βγ-Dimethylhexan-γ-ol (STAS), A., 46.

Dimethylcyclohexanones (CORNUBERT), A., 878.

 $\beta \epsilon$ -Dimethyl- $\Delta \gamma$ -hexenes, dibromo- (Prévost), A., 748.

 $\beta \epsilon - di$ hydroxy-, heat of combustion of (Roth and Müller), A., 441.

 $\beta \epsilon$ -Dimethyl- $\Delta \gamma$ -hexinene, $\beta \epsilon$ -dibromo-, properties of (Krestinski),

 $\beta \epsilon$ -dihydroxy-, heat of combustion of (Roth and Müller),

 $\beta \epsilon$ -Dimethyl- $\Delta \gamma$ -hexinene- $\beta \epsilon$ -diol, action of hydrobromic and hydriodic acids on (SALKIND, SIGOVA, RUBIN, and KRUGLOV), A., 443.

action of phosphorus tribromide on (Krestinski), A., 442.

Dimethylcyclohexyl ethers (LACOURT), A., 761. 3:4-Dimethylcyclohexyl benzyl ether (SENDERENS and ABOULENC),

2:5-Dimethylhydantoinohydantoin, and the methyl ether of its

enol (BILTZ, KRZIKALLA, and SLOTTA), A., 1093. Dimethylhydroresorcinol. See Dimethylcyclohexanedione.

ON-Dimethyl-N-hydroxyethylhydroxylamine, and its salts (Jones and Major), A., 754.

an'-Dimethyl-γ-hydroxypiperidine-β-carboxylic acid. See 2:6-Dimethylpiperidine-3-carboxylic acid, 4-hydroxy-.

Dimethyl-y-hydroxypropylsulphonium iodide (Bennett and Hook), A., 1166.

2:7-Dimethylindolizine (Tschitschbabin), A., 885.

Di-2-methylindolyl-p-hydroxy-m-methoxyphenylmethane, and its triacctyl derivative (MINGOIA), A., 158.

Dimethylindolylmethylenedioxyphenylmethanes (MINGOIA), A.,

Dimethylindolylphenylmethanes (MINGOIA), A., 158.

Di-2-methyl-3-indolylsulphone (Oddo and Mingola), A., 158. 3:5-Dimethylindoxazen, and 3-chloro-6-amino-, and 4-nitro-(LINDEMANN and PICKERT; LINDEMANN, KÖNITZER, and Romanoff), A., 980.

Dimethyl-y-iodopropylsulphonium iodide (BENNETT and Hock), A., 1167.

Dimethylketomethylene-5-phenylacridines (WEISS and KNAPP),

1:7-Dimethylnaphthalene, and its picrate (Darzens and Heinz), A., 243.

Dimethylnaphthalenes, chloro- (I. G. FARBENIND.), (P.), B., 1:7-Dimethylnaphthalene-3-carboxylio acid, and its methyl ester

(DARZENS and HEINZ), A., 243. 1:6-Dimethylnaphthalene-2:4:7-tricarboxylic acid, and its silver

salt and derivatives (FEIST, JANSSEN, and CHEN), A., 357. 2:2'-Dimethylnaphthil (Lesser and GAD), A., 247.

Dimethylnaphthoic acids (LESSER and GAD), A., 247.

5:7-Dimethyl-\psi-1:8-isonaphthoxazone, and its salts and derivatives (DEY, SARKAR, and SESHADRI), A., 63.

Dimethyl-β-nitrophenylethylammonium salts (Goss, Hanhart, and Ingold), A., 236.

 η -Dimethyloctan- ϵ -one (Jones), A., 43.

 $\beta\eta$ -Dimethyl- $\Delta\delta$ -octinene- $\gamma\zeta$ -diols, isomeric, and their salts (Krestinski and Marjin), A., 1052.

 $\kappa \xi$ -Dimethyl- $\Delta \nu$ -pentadecene- $\alpha \alpha$ -dicarboxylic acid, ethyl ester (Ruzicka), A., 1170.

ιν-Dimethyl-Δμ-pentadecenoic acid (Ruzicka), A., 1170.

1:3-Dimethylcyclopentane, oxidation of (Chavanne), A., 452. Dimethylcyclopentanone, and its derivatives (Pringsheim and Schreiber), B., 720.

3:3'-Dimethylcyclopentyl (Zelinski, Titz, and Fatelev), A., 47. 3:5-Dimethylphenylglyoxal-pp'-dinitro-osazone, 2-hydroxy- (v. Auwers, Baum, and Lorenz), A., 670.

4:6-Dimethylphenylglyoxylic acid, 2-hydroxy-, derivatives of (v. Auwers and Herbener), A., 156.

Dimethylphenyl styryl ketones, 2-hydroxy- (Smionis and Dani-SCHEWSKI), A., 154.

NN'-Dimethylphthaldianilide (Kuhn, Jacob, and Furter), A., 870.

2:2-Dimethylphthalide, 5-cyano- (TASMAN), A., 1186.

2:6-Dimethylpiperidine-3-carboxylic acid, 4-hydroxy-, esters, manufacture of O-acyl derivatives of (I. G. FARBENIND.), (P.), B., 669.

2:5-Dimethyl-2-isopropenylcyclohexanone, and its semicarbazono (Kon and Nutland), A., 153.

Di- β -methylpropyl ether, di- β -hydroxy- (Godchot), A., 444.

Dimethyl-n-propylamine, and its picrate (HANHART and INGOLD), A., 651.

aβ-Dimethyl-n-propylaniline, resolution of, and its nitrile (GLATT-FELD, HOPKINS, and THURBER), A., 559. p-aβ-Dimethyl-n-propylbenzoic acid, and its chloride (GLATTFELD,

HOPKINS, and THURBER), A., 559. Dimethylpyrazoles, bromo-, chloro-, and their salts, and nitro-

(v. Auwers and Bahr), A., 677. 3:5-Dimethylpyrazoline (v. Auwers and Heimke), A., 1203.

4:6-Dimethylpyridothiophen, 3-hydroxy-, and its salts and deriv-

atives (Koenios and Kantrowitz), A., 1207.

4:6-Dimethylpyrindoxyl, and its salts and derivatives (Koenics and Kantrowitz), A., 1207. Dimethylpyrocatechol, and its derivatives (BURKE and CAPLAN), B., 246.

Dimethylpyrone, bromo-derivatives of, and their derivatives

(Collie and Klein), A., 1082. lin.-Dimethylquinacridone (Lésniański and Czerski), A., 577.

2:4-Dimethylquinol, action of aniline on (BAMBERGER), A., 556. 2:4-Dimethylquinoline, amino-, chloro-, chloroamino-, chloronitroand nitro-, and their salts and derivatives (ROBERTS and TURNER), A., 976.

2:8-Dimethylquinoline, and its zinc chloride (British Dyestuffs CORP. and WYLER), (P.), B., 809.

2:4-Dimethylquinolino-6:5- α -pyrone. See 5:7-Dimethyl- ψ -1:8-isonaphthoxazone.

Dimethylsinomenol-A (Goto), A., 146.

Dimethylspermine, and its chloroaurate (WREDE, FANSELOW, and STRACK), A., 652.

ιν-Dimethyl-Δμ-tetradecene, α-bromo- (Ruzicka), A., 1170.

 $\theta\mu$ -Dimethyl- $\Delta\lambda$ -tetradecenoic acid, and its ethyl ester (Ruzioka), A., 1170. w-Dimethyl-∆µ-tetradecen-a-ol (Ruzicka), A., 1170.

1:7-Dimethyl-1:2:3:4-tetrahydronaphthalene-3-carboxylic acid, and its methyl ester (DARZENS and HEINZ), A., 243.

4:8-Dimethyl-βz-tetrahydroquinazoline, 2-amino- (Mitter and BHATTACHARYA), A., 977.

2:3-Dimethyl-1:2:3:4-tetrahydroquinoxalines, stereoisomeric, and their salts and derivatives (GIBSON), A., 366.

NN'-Dimethyltetramethylenediamine, and its salts and derivatives (WREDE, FANSELOW, and STRACK), A., 651.

1:5-Dimethyl-1:2:3:4-tetrazole (KNOLL & Co. and SCHMIDT), (P.), B., 173.

5:6-Dimethyltetrophan (v. Braun and Stuckenschmidt), A., Dimethyldithioearbamic acid, selenium salt (MURRILL and VANDER-

BILT Co.), (P.), B., 708.

4:4'-Dimethylthioindigotins, tetrahalogenated (I. G. FARBENIND. and FARBW. VORM. MEISTER, LUCIUS, & BRÜNING), (P.), B., 360.

2:5-Dimethylthiol-1:3:4-thiodiazole (P. C. and S. C. GUHA), A., 981. 1:2-Dimethyl-5:8-triazobenziminazole, and 4:7-dichloro-5:6-dihydroxy-, and its salts (Fries and Abdurrachman), A., 781.

3:5-Dimethyl-1:2:4-triazole-1-carboxylamide (Brunner and MEDWETH), A., 468.

 $\theta\mu$ -Dimethyl- $\Delta\lambda$ -tridecene-aa-dicarboxylic ethyl ester acid, (Ruzicka), A., 1170.

4':4"-Dimethyltriphenylmethane, 2:4-dinitro- (Tanasescu), A.,

 ζ_{κ} -Dimethyl- Δ^{6} -undecene- $\alpha\alpha$ -dicarboxylic acid, ethyl ester (Ruzicka), A., 1170.

Dimethylisouric acids, and their salts and derivatives, and 4-chloro-, and 4-hydroxy- (Biltz and Bülow), A., 1090; (Biltz, Krzi-KALLA, and SLOTTA), A., 1091.

Di-α-naphthafluorenyl halides (VANSCHEIDT), A., 235.

Dinaphthafluorindines, amino-, acetyl derivatives (Kehrmann and Logoz), A., 578.

Di-β-naphthalenesulphonyleystines (GORTNER and HOFFMAN), A., 581.

Dinaphthanthradiquinol (Seka and Sekora), A., 363.

Dinaphthanthradiquinone, derivatives of (Seka and Sekora; SEKA and SCHMIDT), A., 363.

Dinaphthanthradiquinone, diamino- and dinitro- (SEKA and SCHMIDT), A., 363.

Dinaphthanthradiquinone-1:4:8:11-tetracarboxylic derivatives of (Seka, Schmidt, and Sekora), A., 360.

Di- β -naphthas piropyran (Dickinson and Heilbron), A., 251.

Di-β-naphthaspiropyran-3:3'-dicarboxylic ethyl acid, ester (Dickinson and Heilbron), A., 884.

Di-α-naphthoylperylene, dichloro- (Bensa), (P.), B., 698.

1:1'-Dinaphthyl, 2:2'-dihydroxy-, copper compound (THYLL and SCHMID), (P.), B., 470.

Di-α-naphthylacetdiethylamide (McKenzie and Duff), A., 755. Di-α-naphthylarsenious sulphide (MATSUMIYA and NAKAI), A., 164.

Di-β-naphthylearbamyl azide (Stollé, Nieland, and Merkle), A., 1204.

Di - α - naphthylcyanoarsine (Grischkevitsch - Trochimovski, MATEYAK, and ZABLOTSKI), A., 1210.

Dinaphthyldicarboxylic acids, and dibromo-, and dichloro-, and their derivatives (I. G. FARBENIND.), (P.), B., 902.

s-Di-α-naphthyldiethylcarbazide (Stollé, Nieland, and Merkle), A., 1204.

Dinaphthylene dioxide, and its derivatives and vat dyes (THYLL and SCHMID), (P.), B., 470.

Di-a-naphthylglycolldiethylamide (McKenzie and Duff), A., 755. $Di-\beta$ -naphthylguanidine (Naunton), B., 51.

Diospyros kirakaki and lycopersicon, tannin in fruits of (BOTTINI), A., 1226.

Dioxalatostannic acid, dichloro-, salts of (ELÖD and KOLBACH), A., 958

Dioxan. See Diethylene dioxide.

Dioximes (Ponzio), A., 134, 462; (Ponzio and De Paolini; Ponzio and Sismondi; Semeria and Bocca), A., 135; (De Paolini), A., 135, 1207; (Ponzio and Avogadro), A., 470.

Dioxindole, 4-amino- (RUPE and APOTHEKER), A., 62.

Dioxyhydroxydihydrostrychnidine (Oxford, PERKIN, and Robinson), A., 1209.

Dioxyhydroxyhexahydrostrychnine (Oxford, PERKIN, and Robinson), A., 1209.

Dioxymethoxymethyldihydrobrucidines, and their salts (Gulland, Perkin, and Robinson), A., 889.

Di-△2-cyclopentenylacetic acid (Perkins and Cruz), A., 359. Di-Δ²-cyclopentenylmalonic acid (Perkins and Cruz), A., 359.

Dipeptidase, yeast (GRASSMANN), A., 794.

Dipeptides, autoclave hydrolysis of (Zelinski and Gavrilov),

enzymic cleavage of (v. Euler and Josephson), A., 175. unsaturated anhydrides of (BERGMANN), A., 474; (ABDER-HALDEN), A., 776.

containing arginine, synthesis of (BERGMANN and KÖSTER), A., 755.

Diperimidine, and chloro-, hydrochlorides of (DIMROTH and Roos).

Diperimidinequinone, and chloro- (DIMROTH and Roos), A., 886. Diphenacyl sulphide, and its derivatives (DILTHEY and LACHS), A., 770.

Diphenamic acids, 4-nitro-. See Carbamidodiphenylcarboxylic aoids, 4-nitro-.

Di-p-phenetoleazodimethylethylene (Vörlander, Zeh, and ENDERLEIN), A., 554.

Di-p-phenetoleazoethylene (Vorländer, Zeh, and Enderlein), A., 554.

Di-p-phenetoleazomethylethylene (VÖRLANDER, ZEH, and ENDER-LEIN), A., 554.

Diphenetoleazo-β-naphthols, metallic derivatives of (CRIPPA and Martegani), A., 1063.

2:5-Di-p-phenetyl-p-benzoquinone (Pummerer and Fiedler), A., 770.

aa-Diphenetylethane, β -bromo-, and $\beta\beta$ -dibromo- (Harris and Frankforter), A., 139. aa-Diphenetylethylene, and β -bromo-, and $\beta\beta$ -dibromo- (HARRIS

and Frankforter), A., 139. Diphenic acid, and 6-nitro-, and their morphine salts and deriv-

atives (Bell and Robinson), A., 876.

Diphenic acid, 4:4'-dinitro-, quinine salt (KUHN and ALBRECHT), A., 877.

d-Diphenic acid, diamino-, salts and dilactam of (Meisenhumer and Höring), A., 767.

Diphenic acids, optically active, relative stability of (Bell and Robinson), A., 1069. Diphenic acids, nitro-, quinine salt and anhydride of (Bell and

Robinson), A., 1069. Diphenic anhydride, 4-nitro- (Moore and Huntress), A., 665.

Diphenolisatin, OO-diacyl derivatives of (PREISWERK and HOFF-MANN-LA ROOHE CHEMICAL WORKS), (P.), B., 380*.

Di-p-phenolsulphonimide (STEINKOPF), A., 965.

Diphenoxtellurylium sulphates (DREW), A., 164. 2:5-Diphenoxybenzoquinone (Kohn and Sussmann), A., 966.

2:5-Diphenoxy-1:4-dimethoxybenzene (Kohn and Sussmann). A., 966.

2:5-Diphenoxyquinol, and its diacetate (Kohn and Sussmann), A.,

Diphenyl, space formula of (TURNER and LE FÈVRE), A., 139. formation of, from benzene (PYL), A., 654; (FUCHS), A., 866. stereochemistry of (Meisenheimer and Höring), A., 766. vapour pressure of (GARRICK), A., 1019.

derivatives, ultra-violet absorption spectra of (Castille), A., 186.

resolution of (MASCARELLI), A., 1180.

Diphenyl, 4-amino-, bromonitro-, bromonitro-4-amino-, chlorobromo-, chloro-mono- and -di-bromo-4-amino-, and chloromono- and -di-nitro-4-amino-, and their derivatives (SCAR-BOROUGH and WATERS), A., 656.

4-amino-4'-hydroxy-, and 4:4'-dichloro-3-amino- (I. G. FAR-

BENIND.), (P.), B., 213.

mono-, di-, and tri-bromo-4-hydroxy-, mono- and di-bromo-3nitro-4-amino-, and bromo-mono- and -di-nitro-4-hydroxy-(Bell and Robinson), A., 657.

2:5-dibromo-, 5-bromo-2-amino-, 2-bromo-4-nitro-, 3:5-dibromo-2-amino-, 3:5-dichloro-, chloro-2-amino-, and 3:5-dichloro-2amino-, and their salts and derivatives (Scarborough and WATERS), A., 236.

bromoamino-, bromonitroamino-, and chloroamino-derivatives (Kenyon and Robinson), A., 142.

4-bromo-3:4'-dinitro-, dibromotrinitro-, and 2':3:4'-trinitro-4-amino- (LE FEVRE, MOIR, and TURNER), A., 1062.

4:4'-dibromo-3:3'-dinitro-, derivatives of (LE Fryre and Turner), A., 654.

trichloro- and trinitro- (RAUDNITZ and BÖHM), A., 453.

4-hydroxy-, derivatives of (Bell and Kenyon), A., 145. 2:5:2':4'-tetrahydroxy-, and its derivatives (Pummerer and

Huppmann), A., 770. Diphenyl series (Kenyon and Robinson), A., 142; (Bell and

KENYON), A., 145; (BELL and ROBINSON), A., 657, 876, 1069. stereochemistry of (Kuhn and Albrecht), A., 876. orientation in (LE Fèvre, Moir, and Turner), A., 1062.

Diphenyl ether, mono- and di-bromonitro-, 4-chloro-4-amino-, monoand di-chloronitro-, and 4:4'-dichloro-2:2'-dinitro- (LE FEVRE, SAUNDERS, and TURNER), A., 661. disulphide, 4:4'-dichloro-2:2'-dinitro-5:5'-dihydroxy-, salts of

(FRIES and BUCHLER), A., 782.

di- and tri-sulphides, dibromo- and dibromonitro-, and dichloro-, and dichloronitro- (Brooker, Child, and Smiles), A., 757. NN'-Diphenylacetamidine, and its salts (BRUNNER, MATZLER, and

Mössmer), A., 867. NN'-Diphenylacetamidine, o- and p-nitro-, and their salts (BRUNNER and HASLWANTER), A., 867.

Diphenylacetdiethylamide (McKenzie and Duff), A., 755.

Diphenylacetic acid, fate of, in the body (MIRIAM, WOLF, and SHERWIN), A., 275. p-tolyl ester (v. Auwers, Baum, and Lorenz), A., 671.

2:5-Diphenyl-3-acetoxyfuran (Lutz), A., 61.

Diphenylacetylazotriphenylmethane (WIELAND, HINTERMAIER, DENNSTEDT, and LORENZO), A., 237.

Diphenylacetylglycine (MIRIAM, WOLF, and SHERWIN), A., 275. Diphenylacetylglycuronic acid (MIRIAM, WOLF, and SHERWIN), A., 275.

Diphenylacetylhydrazotriphenylmethane (Wieland, Hintermaier, Dennstedt, and Lorenzo), A., 237.

Diphenylamine, ultra-violet absorption spectrum of (Castille), A., 608.

equilibria of cresols with (Pushin and Basara), A., 628. equilibrium of p-nitroanisole and (Pushin), A., 22. catalytic reduction of (Hiers and Adams), A., 552. hexabromostannate (Costeanu), A., 1179.

Diphenylamines, substituted, relation between blue additive and oxidation compounds of (Madelung, Reiss, and Herr), A., 657. chloro-4-nitro-2-amino- (Fries, Modrow, Raeke, and Weber), A., 780.

Diphenylaminearsinic acids, and nitro- (Gibson and Johnson), A., 1210.

Diphenylamine-2-carboxylic acid, derivatives of (Goldstein and Piolino), A., 558; (Goldstein and De Simo), A., 1186.

Diphenylamine-2-carboxylic acid, 4:3'-diamino-, and its tin salt and derivatives, and 4-nitro-3'-amino- (Goldstein and De Simo), A., 1186.

Diphenylamine-6-carboxylic acid, 2:4-diamino-, and its tin salt and derivatives (GOLDSTEIN and PIOLINO), A., 558.

Diphenylaminoacetonitrile, pp'-diamino- (MADELUNG and VÖLKER), A., 54.

5:5-Diphenyl-7-amino-3-dimethylaminodihydroacridine dihydro-chloride, and its diacetyl derivative (Goldstein and Piolino), A., 575.

 β -Diphenylaminoethane, a-nitro- β -p-amino- (Worrall), A., 761. 2:3-Diphenyl-5-p-anisylfuran, 4-bromo- (Allen and Rosener), $\frac{\lambda}{2}$ 0.71

A., 971. 9:10-Diphenylanthracene, bromo- and chloro-derivatives (Ingold and Marshall), A., 141.

9:10-di-p-bromo-, and 9:10-di-p-chloro- (Ingold and Marshall), A., 141.

1:5-dichloro- (BARNETT, COOK, and WILTSHIRE), A., 881.

N:N'-Diphenylbenzamidine, N'-p-nitro-. See Benzenyl-p-nitro-diphenylamidine.

o-Diphenylbenzene (Bachmann and Clarke), A., 962.

p-Diphenylbenzene (triphenyl), synthesis of (Kuhn and Winterstein), A., 349; (v. Braun), A., 655.

Diphenylbenzenylamidine, p-nitro-, methylation of, and its hydrochloride (Chrew and Prynan), A., 1061.

Diphenylbenzidine, use of, as indicator in determination of zinc (Cone and Cady), A., 331.

Diphenylbenzidine, NN'-di-o-amino-, and its dihydrochloride, and

Diphenylbenzidine, NN'-di-o-amino-, and its dihydrochloride, and N-o-nitro- and NN'-di-o-nitro-, and their acetyl derivatives (Tucker), A., 162.

4:4'-Diphenylbenzopinacol (Gomberg and Bachmann), A., 246. 2:5-Diphenyl-p-benzoquinone, 2':4'-dihydroxy-. See Diresorcylquinone.

s-Di-p-phenylbenzoylhydrazine (Wieland, Hintermaier, Dennstedt, and Lorenzo), A., 237.

2:4-Diphenyl-1-benzyl- Δ^1 -cyclopentene-3:5-dione (Scheibler and Mahboub), A., 357.

aγ-Diphenyl-β-benzylisopropyl alcohol, γ-amino-, hippuryl derivative (ΒΕΤΙΖΙΕCHE and MENGER), A., 241.

2:2'-Diphenyl-4:4'-bisbenztriazoylmethane, 5:5'-dihydroxy-, and its diacetate (Fries, Sudhoff, and Brettschneider), A., 778. Diphenylbromoacetic acid, methyl ester (Carothers), A., 148.

2:3-Diphenyl-5-p-bromophenylfuran, 4-bromo (ALLEN and ROSENER), A., 971.

αβ-Diphenylbutan-β-ol hydrochloride, a-amino- (McKenzie and Roger), A., 457.

aδ-Diphenyl-Δβ-butinene-aδ-diol, action of hydrobromic acid on, and its bromides (Salking and Kruclov), A., 443.

Di-α-phenylbutyl sulphide (EVANS, MABBOTT, and TURNER), A., 645. αα-Diphenyl-β-isobutylethanol, β-amino-, benzoyl derivative (ΒΕΤΤΖΙΕCHE, MENGER, and WOLF), A., 45.

αγ-Diphenyl-n-butyric acid, γ-oximino-β-hydroxy-, and its derivatives (Κοημεκ and Goodwin), A., 262.

 $\gamma\gamma$ -Diphenylbutyrolactone, $a\beta$ -dichloro- (LUTZ), A., 565. 1:3-Di- β -phenylcarbamidobenzene, 2:4:6-trinitro- (LORANG), A., 1182

Diphenylcarbazines, 3-nitro-1-amino-, 7-nitro-1:3-diamino-, and 3:7-dinitro-1:9-diamino-5:5-dinitro- (KEHRMANN and ROHR), A., 1206.

Diphenylcarbinol, absorption spectrum of (ORNDORFF, GIBBS, McNulty, and Shapiro), A., 764.

Diphenylchloromethane, displacement of chlorine from (WARD), A., 1061.

2:3-Diphenyl-5-p-chlorophenylfuran, 4-bromo- (Allen and Rosener), A., 971.

2:3-Diphenyl-5-p-chloro-m-tolylfuran, 4-bromo- (Allen and Rosener), A., 971.

Diphenylchlorovinylacetamidine (v. Braun, Jostes, and Heymons), A., 231.

2:2-Diphenyl-△3-chromen, 4-hydroxy- (Heilbron and Hill), A., 1082.

αδ-Diphenyl-αδ-di-p-anisyl-Δαγ-butadiene (Hurd and Webb), A., 337. 2:5-Diphenyl-3:6-dibenzyl-p-benzoquinol (Scheibler and Maii-

BOUB), A., 357. 2:5-Diphenyl-3:6-dibenzyl-p-benzoquinone (Scheibler and Mah-

BOUB), A., 357. Diphenyldidiphenylylethane, s-dihydroxy-. See 4:4'-Diphenyl-

Diphenyldidiphenylytetaane, 8-annydroxy-. See 4:4-Diphenylbenzopinacol. aa'-Diphenyldiethyl ether (WARD), A., 453.

aa'-Diphenyldiethylamine, $\beta\beta'$ -dinitro- (WORRALL), A., 761.

aa'-Diphenyldiethylbenzidine, $\beta\beta'$ -dinitro- (Worrall), A., 761. Diphenyldiethylcarbamide, nitro-derivatives of (Apard), A., 963. aa'-Diphenyl-s-diethyl-n-phenylenediamine. $\beta\beta'$ -dinitro- and its

aa'-Diphenyl-s-diethyl-p-phenylenediamine, $\beta\beta'$ -dinitro-, and its salts (Worrall), A., 761.

Diphenyldicyclohexyltetrazene (Busch and Haase), A., 554. 5:5-Diphenyldihydroacridine, 2:7-diamino-, and its derivatives

(Goldstein and De Simo), A., 1201.

5:5-Diphenyldihydroacridine-3-diethylimmonium salts (Goldstein and De Simo), A., 1201.

5:5-Diphenyldihydroacridine-3-dimethylimmonium salts (Goldstein and Piolino), A., 575.

5:5-Diphenyldihydroacridine-7-immonium chloride, 2-amino-(GOLDSTEIN and DE SIMO), A., 1201.

9:10-Diphenyl-9:10-dihydroanthracene, and its metallic derivatives, and bromohydroxy-, dichlorodibromo-, and chlorohydroxy-derivatives (Ingold and Marshall), A., 141.

9:10-Diphenyl-9:10-dihydroanthracene, 1:5:9:10-tetrachloro- (BARNETT, COOK, and WILTSHIRE), A., 881.

9:10-Diphenyl-9:10-dihydroanthranol, 1:5-dichloro- (Barnett, Cook, and Wiltshire), A., 881.

9:10-Diphenyl-9:10-dihydroanthraquinol, 1:5-dichloro- (BARNETF, Cook, and WILTSHIRE), A., 881.

Diphenyldihydrocaoutchouc, 4:4'-di- and 2:2':4:4'-tetra-hydroxy-, diazo-compounds from (GEIGER), A., 870.

cis- and trans-ββ'-Diphenyl-Δβ-dihydromuconic acids, and their ethyl esters (FARMER and DUFFIN), A., 448.

Diphenyldimethylbutinenediol, action of hydrobromic acid on, and its dibromide (SALKIND and OUTKINA), A., 872.

Diphenyldimethylcarbamide, nitro-derivatives of (APARD), A., 962. 2:2-Diphenyl-4:6-dimethyl- Δ^3 -chromen (Heilbron and Hill), A., 1082.

Diphenyldimethyldihydrazine (Vesel's and Haas), A., 959.

2:5-Diphenyl-2:5-dimethyldihydrofuran, 3-bromo- (Salkind and Outkina), A., 873.

1:4-Diphenyl-2:6-dimethyldihydropyridine-3:5-dicarboxylic acid, 4-p-hydroxy-, ethyl ester (EMMERT, DIEFENBACH, and ECN), A., 1200. Diphenyldimethyldinitrosoamine (VESELÝ and HAAS), A., 959.

2:3-Diphenyl-5-(3':4'-dimethylphenyl)furan, 4-bromo- (Allen and ROSENER), A., 971.

Diphenyldimethylsilicane (KIPPING), A., 267.

Diphenyldimethylstannane (Bullard and Robinson), A., 685. $\gamma\epsilon$ -Diphenyl- $\beta\beta$ -dimethylvaleraldehyde, ϵ -hydroxy- (Meerwein, Bräke, Komant, and Morschel), A., 876.

2:2'-Diphenyldiphenyl (Bachmann and Clarke), A., 962. 4:4'-Diphenyldiphenyl, 4":4"-dichloro-2:2':3":3" -tetranitro-

4:4 - Diphenyldiphenyl, 4":4" - dichloro - 2:2":3":3" - letranitro-(Hodsson), A., 760. 9:9-Diphenyl-10:10-diphenylmethylene-9:10-dihydroanthracene

(Barnett, Cook, and Nixon), A., 349.

Diphenyl-ωω-diphenyl-o-tolylcarbinol (Barnett, Cook, and

NIXON), A., 349.

1:3-Diphenyl-5:5'-dipropylbarbituric acid (Dox), A., 1087. Diphenyl-3:3'-disulphonic acid-4:4'-diazo-2:4-diamino-4'-hydroxy-dlphenylsulphone-5'-carboxylic acid (British Dyestuffs Corp., Mendoza, and Saunders), (P.), B., 101.

aδ-Diphenyl-aδ-di-p-tolyl- Δ a γ -butadiene (Hurd and Webb), A., 337.

Di-o-phenylene pyrophosphate (Anschütz and Boedecker), A., 664.

Diphenylene-4:4'-bisdiazonium fluoborate (Balz and Sohiemann),

Diphenylenebisiminocamphor, mono- and di-thio- (Shukla), A., 1196.

pp'-Diphenylenebisiminocamphors, stereoisomeric (Singh and Rai), A., 569.

s- and as-Diphenylenedi-α-naphthylene-ethylenes (VANSOHEIDT),
Δ 349

Diphenylene oxide, 4-hydroxy-, and 4:5-dihydroxy-, and their derivatives, and 1:3-dinitro-4-hydroxy- (Tsuzuki), A., 571. trinitro- (RAUDNITZ and BÖHM), A., 453.

s-Diphenylethane (dibenzyl), ultra-violet absorption spectrum of (Castille), A., 608.

s-Diphenylethane, 2:2'-dibromo- (KENNER and WILSON), A., 655.

4:4'-dibromo-3:3'-dinitro- (LE Fèvre and Turner), A., 654. dihydroxy-, condensation of, with reactive methylene compounds (Baekeland and Bakelite Corp.), (P.), B., 823. 4-hydroxy-, and its benzoyl derivative (Huston, Lewis, and

GROTEMUT), A., 659.

aa-Diphenylethanol, β -amino-, action of mineral acids on, and its derivatives (Bettzieche, Menger, and Wolf), A., 45.

Diphenylethylacetamidine, and its picrate (v. Braun, Jostes, and Heymons), A., 231.

aa-Diphenylethyl alcohol, β -oximino- (Orekhov and Tiffeneau), A., 872.

Di-(β-phenylethyl)dimethylammonium salts (Hanhart and Ingold), A., 651.

Di-β-phenylethyl ketone, hydrogenation of (IPATIEV and ORLOV), A., SSO.

aa-Diphenylethylene, $\beta\beta$ -dibromo- (Harris and Frankforter), A., 139.

Di- β -phenylethyl ketone, hydrogenation of (IPATIEV and ORLOV), A. 461.

2:5-Diphenylfuran, 3:4-dibromo-, and 3-chloro- (Lutz), A., 61. Diphenylguanidine, di-p-nitro- (NAUNTON), B., 51.

Diphenylhexahydronicotinic acid, and its silver salt (Rupe and Heckendorn), A., 61.

3:6-Diphenylhexahydropyridazine-1:2-dicarboxylic acid, 4:5-dibromo-, methyl ester (Diels and Alder), A., 160.

meso-aζ-Diphenylhexane-yδ-diol, and its diacetate (Kuhn and Rebel), A., 853.

aa-Diphenyl-β-cyclohexylethan-β-one. See Benzhydryl cyclohexyl ketone.

aδ-Diphenyl-a-cyclohexylsemicarbazide (Buson and Haase), A., 554.
aδ-Diphenyl-a-cyclohexylthiosemicarbazide (Buson and Haase), A., 554.

 β -Diphenylhydrazinoethane, a-nitro- (Worrall), A., 761.

1:3-Diphenylhydrindene, derivatives of, and 2:3-dibromo- (WEISS and LUFT), A., 970.

Diphenyl-c-hydroxy-β-p-dimethylstyrylcarbinol (Hellbron and Hill), A., 1083.

Diphenyl-2:2'-dihydroxy-1:1'-dinaphthylsuccinodilactone (Löwenbein and Schmidt), A., 1073.

Diphenylhydroxyethylamines, optically active, and their salts (Read and Steele), A., 557.

d-Diphenylhydroxyethylamino-d-methylenecamphor (Read and Steele), A., 557.

1:3-Diphenylindazole, 4-chloro-5-amino-, di- and tri-chloro-5-hydroxy- and 5-nitro-, and their salts and derivatives (Fries and Tampke), A., 783.

1:3-Diphenylindene, 2-bromo-1-hydroxy-, acetyl derivative (Weiss and Luft), A., 971.

2:3-Diphenylindone, preparation of, and its phenylhydrazone (DE FAZI), A., 1077.

Diphenylmethane, absorption spectrum of (ORNDORFF, GIBBS, McNulty, and Shapiro), A., 764.

Diphenylmethane, 4:4'-dichloro-3:3'-dinitro- (Le Fèvre and Turner), A., 654.

Diphenylmethane series, coloured salts of (Madelung), A., 54; (Madelung and Völker), A., 146.

a β -Diphenyl- γ -p-methoxybenzoylbutyric acid, and its derivatives (ALLEN), A., 562.

 $\alpha\beta$ -Diphenyl- γ -p-methoxybenzoylbutyronitrile (ALLEN), A., 561. 2-Diphenylmethoxy- α -naphthaquinone (FIESER), A., 155.

3:4-Diphenyl-6-p-methoxyphenyl-5:6-dihydropyridine, 2-bromo-6-hydroxy- (Allen), A., 562.

3:4-Diphenyl-6-p-methoxyphenylpyridine, 2-bromo-, and 2-hydroxy- (ALLEN), A., 562.

Diphenylmethylamine, and N-chloro- (Hellerman and Sanders), A., 868.

Diphenyl methylamine, o-hydroxy-, salts of (Billon), A., 879. 2:4-Diphenyl-3-methylchroman-4-ol (Heilbron and Hill), A., 1083.

2:2-Diphenylmethylchromens (Hellbron and Hill), A., 1082.
Diphenylmethylenebenzhydrylamine, and its picrate (Gold-

schmidt and Reichel), A., 963. aa-Diphenyl-β-methylethanol, β-amino-, derivatives of (Bettzieche, Menger, and Wolf), A., 45.

2-Diphenylmethyl-α-naphthaquinone, 3-hydroxy-, and its derivatives (FIESER), A., 155.

1:5(3)-Diphenyl-3(5)-methylpyrazole-4-carboxyanilide (Benary and Kerckhoff), A., 45.

Diphenylmethylsilicyl oxide (KIPPING), A., 267.

 $\beta \ddot{\beta}$ -Diphenylmuconic acid, and its isomeric ethyl esters (Farmer and Duffin), A., 448.

Diphenylnaphthaphenfluorindines, and the N-methyl derivative, and their salts (Kehrmann and Logoz), A., 578.

3:5-Diphenyloxa-3:4-diazole, 2-imino-, and its derivatives (Pellizzari), A., 163.

3:5-Diphenylisooxazole (Komer and Goodwin), A., 263.

Diphenylphenylacetylenylcarbinol. See Triphenylpropargyl alcohol.

NN'-Diphenyl-o-phenylenephosphamidine (Anschütz and Broeker), A., 664.

2:3-Diphenyl-5-phenylfuran, 4-bromo- (Allen and Rosener), A., 971.

Diphenylphosphinocarboxylic acid, ethyl ester (JoB and Dusollier), A., 785.

1:4-Diphenylpiperazine, 1:4-di-op-dinitro-, and 1:4-di-oop-trinitro- (LE Fèvre and Turner), A., 654.

aa-Diphenylpropane, 4-hydroxy-, and its benzoyl derivative (Huston, Lewis, and Grotemut), A., 660.

ay-Diphenylpropane, α-amino-y-hydroxy- (Coleman and Craig),

A., 1190. $\beta\beta$ -chloronitroso- (Rheinboldt and Dewald), A., 852.

ββ-dinitro- (RHEINBOLDT), A., 226.

αα-Diphenylpropyl alcohol, β-amino- and β-chloroamino-, derivatives of (ΒΕΤΤΖΙΕCHE and MENGER), A., 241.
αβ-Diphenylisopropyl alcohol, α-oximino- (Οκέκηον and Τίγγεν-

EAU), A., 872.

1:3-Diphenylpyrazole, 1-p-nitro, and 1:3-dinitro- (v. Auwers and

MAUSS), A., 362. 1:5-Diphenylpyrazole, 1-p-amino-, and 1-p-nitro- (v. Auwers and

MAUSS), A., 362. 1:5-Diphenylpyrazoline-3-carboxylic acid (v. Auwers and Heimke),

A., 1203. 5:6-(2':3'-Diphenyl-4':5'-pyrrolo)quinoline, and its salts (FAWCETT and Robinson), A., 1088.

2.5-Diphenylquinol octaacetate, 3':4':5'-trihydroxy- (Pummerer and Huppmann), A., 770.

2:4-Diphenylquinolines, 5- and 7-amino- (FAWCETT and ROBINSON), A., 1088.

2:6-Diphenylquinoline-4-carboxylic acid, 6-p-amino-, acetyl derivative (Berlingozzi and Turco), A., 1086.

1:2-Diphenyl-4-quinolone (CHAPMAN), A., 874.

2-Diphenyl-quinolyl, and its salts (JOHN, FISCHL, and WÜNSCHE), A., 159.

Diphenylsulphone, p-hydroxy- (STEINKOFF), A., 965.

2:4-Diphenyl-5:6-(4':5':6':7'-tetrahydro-2':3'-indolo)quinoline, and its salts and derivatives (FAWCETT and ROBINSON), A., 1088.

3:6-Diphenyl-1:2:3:6-tetrahydropyridazine, and its hydrochloride (Diels and Alder), A., 160.

3:6-Diphenyl-1:2:3:6-tetrahydropyridazine-1':2-dicarboxylic acid, methyl ester (Diels and Alder), A., 160.

Diphenylthienyl methyl ketones (Fromm, Fantl, and Leibsohn), A., 1198.

s-Diphenylthiocarbamide, 2:3-dichloro-, and 3:4:5-trichloro-(Dyson, George, and Hunter), A., 141.

s-Diphenylthiocarbamides, di-p-amino-, acetyl derivative, di-o-bromo-, dicyano-, and di-o-iodo- (Dyson, George, and Hunter). A., 351.

Diphenylthiocyanoacetic acid, methyl ester (CAROTHERS), A., 148. Diphenylthiophens, and their salts, and bromo- and nitro-derivatives (FROMM, FANTL, and LEIBSOHN), A., 1198.

2:3-Diphenyl-5-p-tolylfuran, 4-bromo- (ALLEN and ROSENER), A., 971.

1:3-Diphenyl-2:4:6-triethyl-5:5'-dipropylhexahydropyrimidine, 2:4:6-trihydroxy-, endo-ether of (Dox), A., 1087.

Diphenylyl groups, comparison of migration of phenyl groups and (Delaville), A., 461.

Diphenylylaniline. See Phenyldiphenylamine.

Diphenylyl benzyl ketone, and its oxime (Delaville), A., 461. oo'-Diphenylylenearsine, derivatives of (GOTTLIEB-BILLROTH), A.,

a-Diphenylylstyrene, and its dibromide and nitrosite (DELAVILLE), A., 461.

Diphthaloylperylene, and dichloro- (Linke, Gorbach, and Schimka), A., 1190.

Diphtheria, carbohydrate metabolism in (Hector), A., 587. Dipiperidiniumhomopiperazinium salts (v. Braun and Goll), A.,

Dipiperidinobenzene, 1-mono- and 4:6-di-nitro- (LE Fèvre and Turner), A., 654.

aη-Dipiperidino-ε-cyanoheptan-δ-one dipicrate (Petit), A., 774. 4:4'-Dipiperidinodiphenyl, 2:5:3'-trinitro- (LE Fèvre, Moir, and Turner), A., 1062.

Dipiperidinodiphenylethane, 3:3'-dinitro- (LE Fèvre and Turner), A., 654,

4:4'-Dipiperidinodiphenylmethane, 3:3'-dinitro- (Le Fèvre and

Turner), A., 654. 4:4'-Dipiperidinodiphenylsulphone, 3:3'-dinitro- (LE Fèvre and

Turner), A., 654. Dipiperidinoethylacetophenone (Dufraisse and Moureu), A.,

aη-Dipiperidinoheptan-δ-one (Petit), A., 774.

aη-Dipiperidino-δ-imino-ε-cyanoheptane (Petit), A., 774.

Dipiperidinomethylacetophenone (Dufraisse and Moureu), A.,

Dipiperonal di-p-tolylhydrotetrazone (MINUNNI and D'URSO), A., 1073.

Di(piperonylmethyl)amine (MALAN and Robinson), A., 1200. 3:4-Dipiperonyl-5-methyl-43-cyclopenten-1-one (O'Donoghue, RYAN, and KEANE), A., 462.

Dipivalylhydrazine (Wieland, Hintermaier, Dennstedt, and LORENZO), A., 237.

Dipropionamide, preparation of (BRUNNER, GRÜNER, and BENES), A., 863.

Dipropionylbenzenes, and their disemicarbazones (MAXIM), A.,

4:10-Dipropionylperylene, 3:9-dichloro (PONGRATZ), A., 1190. Dipropyl sulphide, $\gamma \gamma'$ -dihydroxy-, di-p-nitrobenzoyl derivative (BENNETT and Hock), A., 355.

sulphide, yy-diiodo- (Bell, Bennett, and Hock), A., 958. αα-Dipropylacetoacetic acid, ethyl ester, oxime from (Billon), A., 879.

 $\beta\beta$ -Dipropylacrylic acid, and its silver salt and derivatives (Kox and MAY), A., 853.

 γ -Dipropylaminomethylpentan- β -one, and its salts (Mannion and CURTAZ), A., 231.

1:2-Di(isopropyl)cyclohexane, 1:2-dihydroxy-(Wieland, Schlight TING, and v. LANGSDORFF), A., 243.

Dissopropylidenegalactose iodohydrin (Freudenberg and Rasсило), А., 858.

D is opropylidenegal actos exanthic acid, methyl ester (Freudenberg)and Wolf), A., 230.

Disopropylideneglucose (Levene and Meyer), A., 1174.

Dipropylideneglncosephosphoric acid, ethyl ester, barium salt (Nodzu), A., 539.

Diisopropylideneglucose- γ -dithiocarbonic acid. methyl (FREUDENBERG and WOLF), A., 230.

Dissopropylideneglucose-y-xanthic acid, methyl ester (Freuden-BERG and WOLF), A., 230. Dipropylidenehexosephosphoric acid, esters, hydrolysis of (Nodzu),

A., 539. Dissopropylidenemannose a-chlorohydrin (Freudenberg and

Wolf), A., 230. methyl Diisopropylidenemannosethiocarbonic ester (FREUDENBERG and WOLF), A., 230.

Dissopropylidenemamosexanthie acid, methyl ester (FREUDEN-BERG and WOLF), A., 230.

Dissopropylidenerhodeoses (FREUDENBERG and RASCHIO), A., 858.

Diisopropyl ketone eyanohydrin (MACQ), A., 653.

spiroDipyrans (DE), A., 773, 974.

Dipyridyls as contact insecticides (RICHARDSON and SMITH), B.,

Di-3:3-pyriminazyloxindole, and its hydrochloride and derivatives (REINDEL and v. PUTZER-REYBEGG), A., 161.

Di(quinazoline-2-carboxyl)imide, and its salts (Tröger and Воникамр), А., 1201.

Diresacetophenoneimine sulphate (Housen and Blaese), A.,

Diresorcylquinhydrone (Pummerer and Huppmann), A., 770.

Diresorcylquinol (Pummerer and Huppmann), A., 770. Diresorcylquinone (PUMMERER and HUPPMANN), A., 770.

Disaccharides, constitution of (HAWORTH and PEAT), A., 135; (WEIDENHAGEN), A., 230; (HAWORTH and LONG), A., 450; (HAWORTH, HIRST, and NICHOLSON; CHARLTON, HAWORTH, and HICKINBOTTOM), A., 859; (AVERY, HAWORTH, and Hirst), A., 1057. synthesis of (Helferich and Klein), A., 135.

Disalicylatonranic acid, salts of (Weinland and Hager), A.,

Disazo-dyes, manufacture of (I. G. FARBENIND.), (P.), B., 902. Discatole, transpositions in (ODDO and MINGOIA), A., 1088.

a-Discatolealdehyde. See Formyldiscatole.

Diseases, protein-sugar in various (Chahovitch, Arnovljevitch, and Vichnjitch), A., 896.

Diselenoacetone (Lyons and Bradt), A., 449.

Diselenoacetophenone (Lyons and Bradt), A., 449.

Disinfectants (RHENANIA VER. CHEM. FABR., GERNGROSS, and RÜLKE), (P.), B., 93; (GORDON), (P.), B., 350*; (JAMOTTE), (P.), B., 974.

manufacture of (W. & F. WALKER and FREESTONE), (P.), B.,

coal-tar (Tait), B., 62.

for seeds (ENGELMANN, ALBRIGHT, and DU PONT DE NEMOURS & Co.; ENGELMANN and DU PONT DE NEMOURS & Co.), (P.), B., 374.

testing of, by the Rideal-Walker method (Moore), B., 61. Disinfectant tablets (BRIT. DYESTUFFS CORP., FAIRBROTHER, and

RENSHAW), (P.), B., 766. Disinfecting agents, production of (BOEHRINGER SOHN), (P.),

B., 894.

Disinfection, mechanism of (Cooper and Sanders), A., 203. Disinomenol (Goto), A., 146.

Disintegration apparatus (Addicks), (P.), B., 895; (Porteus), (P.), B., 927.

Disperse systems. See under Systems.

Dispersion in water (PRATT and RESEARCH INC.), (P.), B., 128. of high-molecular compounds by soluble hydrated compounds (v. Weimarn), A., 725. rotatory (Lowry and Coode-Adams), A., 813.

Dispersoidology (v. Weimarn and Hori; v. Weimarn and JUNA; V. WEIMARN and KATOKA; V. WEIMARN and YONEDA), A., 824.

Dissociation constants, determination of, spectrographically (Morton and Tipping), A., 728. second, of dibasic acids (Duboux and Frommelt), A., 515.

Dissociation pressure, dynamic determination of (Centnerszwer and Krustinson), A., 21.

Distearin, optically active salts of (GRÜN and LIMPÄCHER), A.,

ay-Distearoylglycerol-β-phosphoric acid, choline salt (Grün and LIMPÄCHER), A., 227.

Distearoylglycerolphosphoric acids, β -aminoethyl hydrogen esters of (Grün and Limpächer), A., 227. Distemper (MILLAR), (P.), B., 563.

Distillation, heating of chambers in (DRÄHNE), (P.), B., 180. of carbonaccous materials (ZIELEY and RUDOLF), (P.), B., 577;

(Salermo, Ltd. and Salerni), (P.), B., 694. of complex mixtures (GAY), A., 928, 1133.

of easily-decomposable substances (Lewis and Humble Oil & REFINING Co.), (P.), B., 6.

of heterogeneous ternary mixtures (BARBAUDY), A., 313.

of liquids (Major and Taylor), (P.), B., 183; (Downs), (P.), B., 207.

of organic matter, apparatus for (Ljungdahl and Cooper; Ljungdahl), (P.), B., 67.

continuous, of liquids (Granger), (P.), B., 591.

destructive, of bituminous materials (SMITH), (P.), B., 6. fractional (Chillas and Atlantic Refining Co.), (P.), B., 129; (FREUND), (P.), B., 696; (KOPPERS and KOPPERS DEVELOP-

MENT CORP.), (P.), B., 929. low-temperature (BAMAG-MEGUIN A.-G. and HELLER), (P.), B., 867; (SYNTHETIC AMMONIA & NITRATES, SLADE, and HARRISON), (P.), B., 868.

vacuum (DEMONTVIGNIER), A., 1163. prevention of bumping during (West), A., 955.

of mixed liquids (SCHMALENBACH), (P.), B., 434.

Distillation apparatus (Hamilton), (P.), B., 176; (Thermal INDUSTRIAL & CHEMICAL RESEARCH Co. and CHADDER; BURLINGHAM AND TEXAS CO.), (P.), B., 433; (OLIVER), (P.), B., 462; (DAMPFRESSEL & GASOMETERFABR. A.-G. VORM. WILKE & CO.), (P.), B., 464; (LEWIS AND STANDARD DEVELOPMENT CO.), (P.), B., 623; (CHARBONNAGES & AGGLOMÉRÉS DU BASSIN DE LA TAVE), (P.), B., 835.

OF ÍUGIS OF OFES (PLASSMAN) (P.) R. 644

for fuels or ores (Plassmann), (P.), B., 644. for alcoholic liquids (Dupont), (P.), B., 929. for volatile liquids (Hills), (P.), B., 64. for solids (Hoffman), (P.), B., 319. columns (Still and Kuin), A., 208; (Borrmann), (P.), B., 591.

plates for (CHEVALET), (P.), B., 929.

analysis of equations for the design of (SHIRK and MONTONNA),

all-glass column (Lucas), A., 641.

bubbling column (Brown and United Iron Works), (P.), B.,

laboratory columns, effectiveness of (MARSHALL and SUTHER-LAND), A., 641.

laboratory fractionating columns (HILL and FERRIS), A., 437. reflux column (Holland and Standard Oil Co.), (P.), B., 67. multiple-effect (Weir, Ltd., and Weir), (P.), B., 2. flasks (Müller), A., 438.

Distillery mashes, sulphuric acid treatment of (WENDEL), B., 375. Distributing apparatus (MÖDER), (P.), B., 512

s-Distyrylcarbamide (Jones and Mason), A., 1185.

Distyryl ketone (dibenzylideneacetone), hydrogenation of (IPATIEV and OrLov), A., 461, 880.

Distyryl ketone, 2:2'-dihydroxy- (Glaser and Tramer), A., 972. Distyryl ketones, reactions of ethyl acetoacetate with (Heilbron and HILL), A., 565.

Distyryl ketones, chloro-2-hydroxy- (Heilbron and Hill), A.,

2:6-Disuccinimidobenzoquinone, and its derivatives (Covello and Gabrieli), A., 1181. Disulphoisatide (Wahl and Féricéan), A., 470.

Disulphones, alicyclic and aliphatic (RECSEI), A., 750.

Disulphosuccinic acid, and its salts (BACKER and VAN DER Zanden), A., 856.

Disulphoxides, cis-trans-isomerism of (Bell and Bennett), A., 958.

Diterpene, from action of acetic anhydride on d-pinene (EBEL and Goldberg), A., 1168.

Ditetrahydroisoquinoliniumditrimethyleninimium salts (v. Braun and Goll), A., 366.

Ditetrahydroisoquinolimumhomopiperazinium salts (v. Braun and Goll), A., 366.

ay-Ditetrahydroisoquinolyl-n-propane, and its salts (v. Braun and Goll), A., 366.

1:2:7:8-Ditetrazole-4-methyl-1:2:7:8-tetrahydro-1:8-naphthyridine (Seide), A., 63.

Ditetrophanylmethane (v. Braun and Brauns), A., 258.

a-Dithian dioxide (Bell and Bennett), A., 958.

Dithionic acid. See under Sulphur.

ay-Dithymoxypropane (DELABY), A., 145.

4:4'-Di-p-toluenesulphonamidodiphenyl, 3:3'-dinitro- (Bell and Robinson), A., 657.

pp'-Di-p-toluenesulphonamidodiphenylmethane (KUHN, JACOB, and Furter), A., 870.

Ditoluene-ω-sulphonanilide (MARVEL and GILLESPIE), A., 66. Ditoluene-w-sulphon-p-toluidide (MARVEL and GILLESPIE), A., 66. NN' - Di - p - toluenesulphonyl - p - benzoyloxyphenylhydrazine (Borsche and Frank), A., 51.

5:5'-Di-p-toluidinodiphenyl sulphide, 2:2':4:4'-tetranitro- (FRIES, MODROW, RAEKE, and WEBER), A., 780.

aβ-Ditoluoylethylene, a-amino- (Dupont), A., 1055.

3:4-Di-p-toluoyl-1:2:5-furazan, and its derivatives (DE PAOLINI),

3:9-Di-o-toluoylperylene (Pongratz), A., 1190.

Ditoluoylperylenes, dichloro- (BENSA), (P.), B., 698.

1:3-Di-p-toluoyl-1:2:2-trimethylcyclopentane (SALMON-LEGAG-NEUR), A., 1082. Ditolyl. See Dimethyldiphenyl.

Di-o-tolyl selenide (Porritt), A., 267.

disulphide, 3:3'-diamino- (BOGERT and ALLEN), A., 679.

Di-p-tolyl ether, amino-, 3-nitro-, and 6-nitro-2-amino-, and their salts and derivatives (Reilly and Barrett), A., 763. 2-nitro-, dinitro-, and tetranitro- (Reilly, Drumm, and

BARRETT), A., 239.

Di-p-tolylacetamidine, and its salts and benzoyl derivative (Brunner, Matzler, and Mössmer), A., 867.

Di-p-tolylacetophenone, and its derivatives (Danilov), A., 154. 2:5-Di-p-tolyl-3-acetoxyfuran (Lutz), A., 61.

9:10-Di-p-tolylanthracene, and its derivatives (INGOLD and Marshall), A., 141.

as-Di-p-tolylcarbamide (Stollé, Nieland, and Merkle), A., 1204. Di-p-tolylcarbamyl azide (STOLLÉ, NIELAND, and MERKLE), A.,

Di-o-tolylcarbinol (BOYD and HATT), A., 558.

Di-p-tolyldicyclohexyltetrazene (Busch and Haase), A., 554. 9:10-Di-p-tolyl-9:10-dihydroanthracene, 9:10-dihydroxy- (Ingold and Marshall), A., 141.

3:5-Di-p-tolyldimethylaniline (DIELS and ALDER), A., 465. Ditolylenebisiminocamphor, pp'-thio- (Shukla), A., 1196.

oo'-Ditolylenebisiminocamphors, stereoisomeric (SINGH and RAI), A., 569.

aa-Ditolylethane, βββ-tribromo- (HARRIS and FRANKFORTER), A.,

ac-Ditolylethylene, $\beta\beta$ -dibromo- (HARRIS and FRANKFORTER), A., 139.

Di-p-tolylformazylcarboxylic acid, urethane derivative of (WHITE-LEY and YAPP), A., 344.

2:5-Di-p-tolylfuran, 3-chloro- (Lutz), A., 61.

Ditolylglycolldiethylamides (McKenzie and Duff), A., 755.

Di-m-tolylguanidine (NAUNTON), B., 51. Di-p-tolyl ketone, additive compound of, with magnesium iodide

(Gomberg and Bachmann), A., 246.

4:8-Di-p-tolyl-2-methylpyrylium perchlorate and its compound with phenylhydrazine (Diels and Alder), A., 465.

NN'-Di-o-tolyl-o-phenylenephosphamidine (Anschütz BROEKER), A., 664. 1:3':5'-Di-p-tolylphenylpiperidine (DIELS and ALDER), A., 465.

δβ-Ditolylthiosemicarbazide (Bose and Ray-Chaudhury), A., 981. $\alpha\beta$ -Di-(2:4:6-trimethylbenzoyl)ethane, $\alpha\beta$ -dibromo-, and $\alpha\beta$ -dichloro- (Lutz), A., 59.

Di-(2:4:6-trimethylbenzoyl)ethanone (Lutz), A., 59.

aβ-Di-(2:4:6-trimethylbenzoyl)ethylene, a-bromo-, and a-hydroxy-, and its copper salt (Lutz), A., 59.

s-Di-βββ-triphenylethylcarbamide (Hellerman), A., 875. Diuracilpyridazine (Baudisch and Davidson), A., 365.

Diuresis, products of (CACOIA), (P.), B., 460.

sulphate and theophylline (Möller), A., 1219.

2:2'-Diurethano-1:1'-dianthraquinonyl (Smith, SCOTTISH DYES), (P.), B., 902.

Divandylmalonic acid, and its ammonium salt (SCHRAMM), A., 542. Divanillylidenebenzidine, 5:6-dibromo-, and its derivatives (Raiford and Hilman), A., 769.

Dixanthogen, manufacture of (HIRSCHKIND and GREAT WESTERN ELECTRO-CHEMICAL Co.), (P.), B., 125.

Dixanthyls, substituted, dissociation of, into free radicals (CONANT and GARVEY), A., 975.

Dixanthyl-9:9'-dicarboxylic acid, and its methyl ester (CONANT and Garvey), A., 975.

Dixyloylbenzenedicarboxylic acids, and the corresponding lactones (SEKA, SCHMIDT, and SEKORA), A., 360.

2:5-Di-p-xylyl-p-benzoquinone (Pummerer and Fiedler), A., 770. Di-p-xylylguanidine (Scott and Du Pont de Nemours & Co.), (P.), B., 924.

Dixylylguanidines (Naunton), B., 51.

4:6-Di-o-xylyl-2-methylpyrylium perchlorate (DIELS and ALDER),

Di-xylylphthalides (Weiss, Spitzer, and Melzer), A., 57.

ββ-Di-m-xylylpropane, and its nitro-derivatives (Goudet and Schenker), A., 440.

s-Di-m-xylyl-2-thiocarbamide (Dyson, George, and Hunter), A., 351.

Dodecalactone (Chuit, Boelsing, Hausser, and Malet), A., 445. Dodecane-αλ-dicarboxylic acid, and its dimethyl ester (CHUIT, Boelsing, and Malet), A., 446.

Dodecanedicarboxylic acid, diamino-, from caseinogen (Fränkel and Friedmann), A., 547.

Dodecane-au-diol, derivatives of (CHUIT, BOELSING, and MALET), A., 446.

Dodecan-μ-ol, α-cyano-, and its derivatives (Chuit, Boelsing, and MALET), A., 446.

△r-Dodecenoic acid, and its methyl ester (Tomecko and Adams),

n- and iso-Dodecenoic acids, and their salts and derivatives (CHUIT, BOELSING, HAUSSER, and MALET), A., 445.

Dodecenols (Chuit, Boelsing, Hausser, and Malet), A., 445. Dodecoic acid, y-hydroxy- (Chuit, Boelsing, Hausser, and MALET), A., 445.

5-Dodeoyl-\$\psi\$-thiohydantoin (NICOLET and BATE), A., 977.

Dogs, relation between blood and lymph in (ARNOLD and MENDEL), A., 475.

effect of lactose on calcium-phosphorus balance in (GROSS), A., 695.

effect of extirpation of liver on cholesterol metabolism of (Enderlen, Thannhauser, and Jenke), A., 274.

inorganic salt metabolism in (Jones), A., 373.

saliva of. See under Saliva.

sulphur metabolism of (Callow and Hele; Coombs and Hele), A., 695; (Coombs), A., 696.

fasting depancreatised, ketone excretion, D: N ratios and glycogen in liver and muscles of (Chaikoff), A., 896.

hypophysectomised, effect of insulin on (Geiling, Campbell, and Ishikawa), A., 994.

n- and iso-Domesticines, and their salts and derivatives (KITA-SATO), A., 1094.

Dopes and detonation (CALLENDAR), B., 272.

Dopplerite, occurrence of, in peat (Francis and Tideswell), B., 929.

Double decomposition in absence of solvents (Bergman and Henke), A., 112.

Dough, mixing of (Swanson and Working), B., 395.

baking, manufacture of (Donovan and Brown), (P.), B., 314. apparatus for testing (Soc. D'EXPLOITATION BREVETS & D'APPLICATIONS INDUSTRIELLES), (P.), B., 265.

Dough-making, calculation of required temperature of liquids in (Davies), (P.), B., 570.

Dracænic acid, and its derivatives (FRÄNKEL and DAVID), A.,

Draconic acid, and its ethyl ester (FRÄNKEL and DAVID), A., 995. Dragon's blood, pigment from extracts of (FRÄNKEL and DAVID), A., 995.

Driers (Wolff), B., 340.

crystallising-out of solutions of (Anon.), B., 634.

vanadium compounds as (SWEHTEN), B., 259; (HEBLER), B., 635.

zine compounds as (WILBORN), B., 755.

analysis of (WILBORN), B., 708.

Drinking water. See Potable water under Water.

Dromaius novæ-hollandiæ (emu), oil from kidney fat of (Morrison), A., 168.

Drops, behaviour of, in high electric fields (RUFF, NIESE, and Тномаз), А., 402.

division of, along the line of greatest surface tension (BANCROFT and GURCHOT), A., 409.

Drugs, effect of polarised light on pharmacological activity of (Macht and Krautz), B., 346; (Macht and Anderson),

electromotive action as cause of toxicity of (BEUTNER), A., 991. solubility of, in glycerol (Roborgh), В., 796.

dilute sulphuric acid as a reagent for (TEUFER), B., 378. acylated, significance of the acyl group in (KAUFMANN), B., 155. synthetic (Kaufmann), B., 155.

Drums, drying, utilisation of heat in (Ludwig), (P.), B., 639. rotary, removal of liquids from interior of (Leather), (P.),

Dry-cleaners' solvent, continuous automatic re-refining and decolorisation of (FLOWERS, McBerty, and Dietrich), B., 744.

Dryers (Rhoades and Proctor & Schwartz; Schwartz and PROCTOR & SCHWARTZ), (P.), B., 64; (STOTHERT & PITT and MINTY), (P.), B., 240; (CARBORUNDUM CO. and GREENWOOD), (P.), B., 432; (Komarek and Malcolmson Engineering & Machine Corp.; West), (P.), B., 800; (Knipschild), (P.),

drum (VAN MARLE and BUFFALO FOUNDRY & MACHINE Co.), B., (P.), 64.

laboratory vacuum (RIECHE), A., 38. rotary (MILLER), (P.), B., 767.

spray (Industrial Associates Inc.), (P.), B., 896.

Drying, methods of (TROOP), B., 630. control of the temperature of heated air in (OWEN), (P.), B., 65. effect of, on properties (Balarev), A., 613; (Smits), A., 728. with hot gases, heat economy of (GRAULICH), B., 31.

of gases (I. G. FARBENIND.), (P.), B., 33. of liquids by spraying (Industrial Associates Inc.; Nyrop), (P.), B., 801.

Drying and cooling out of contact with air (N.V. CARBO-UNION IND. MAATS.), (P.), B., 319.

materials (STACEY and CARRIER ENGINEERING CORP.), (P.), B., 32; (PASQUIERS), (P.), B., 719. rotary drums for (CUYPERS), (P.), B., 176.

of granular materials (HILGENBERG), (P.), B., 32; (PARKER), (P.), B., 95.

cylinders for (Evans), (P.), B., 321. Drying agents, imparting a large surface to (SMOLCZYK), (P.),

for gases (I. G. FARBENIND.), (P.), B., 736.

Drying apparatus (Minter), (P.), B., 241*; (Oesterreichische Landwirtschafts-Ges.), (P.), B., 288; (Christoph, American Hardware Corp., and Sterling, Blower Co.), (P.), B., 351; (HUNT and INFIELD; HOSFORD and WESTERN ELECTRIC CO.; WOOD and HEYMANN), (P.), B., 719; (CANO), (P.), B., 736*; (INDUSTRIAL DRYER CORP.), (P.), B., 768. for fabrics (WINTER and JORDAN), (P.), B., 747.

for fuel (Internat. Combustion and Rosencrants), (P.), B., 514.

for material in bulk or in stacks (TINKER), (P.), B., 639.

for paper or textiles (Fulton), (P.), B., 474.

for root-crops (OWEN), (P.), B., 827.

rotary (Marston), (P.), B., 511; (Vernay), (P.), B., 719. Drying and heating apparatus (GRAVES and GRASSELLI CHEMICAL Co.), (P.), B., 32; (GRASSELLI CHEMICAL Co.), (P.), B., 287.

Drying oils. See under Oils. Duck. See Anas erythrorhynchos.

Dulcitol, specific heat, entropy and free energy of (PARKS and Huffman), A., 12.

Duodenum, determination of cholesterol and bile pigments in contents of (McClure and Huntsinger), A., 372. Duralumin (BECK), B., 143.

elastic hysteresis of (Jannin), B., 167.

cementation of, after double electrodeposition (Courner and Рекот), В., 559.

protective coatings for, and similar light-weight alloys (GARD-NER), B., 683.

Durometers for testing hardness (SAUVEUR), B., 46.

Dust or Dusts, pneumatic conveyance of (YATES and PNEUMATIC Conveyance & Extraction), (P.), B., 177.

compositions for laying or preventing (Ekström), (P.), B., 334*.

face mask for protection from, in industrial processes (Lockнакт), В., 831. arsenical and sulphur, physical properties of (STREETER), B.,

centrifugal apparatus for separation of (Keith & Blackman

Co. and KEITH), (P.), B., 689. separation of, from air (VAN GELDER), (P.), B., 640.

Dust clouds, electrification of (WHITMAN), A., 86; (DEODHAR), A., 621.

Dvi-manganese (rhenium) (SELJAKOV and KORSUNSKI), A., 814. occurrence of, in manganese compounds (Dolejšek and Heyrovský), A., 636.

preparation and properties of (I. and W. Noddack), A., 532. Dye, and its derivatives, from oxidation of pyriminazol-2-one with potassium ferricyanide (REINDEL and RAUCH), A., 162.

Dyes (WYLAM, HARRIS, THOMAS, and Scottish DYES; SMITH,

Thomas, and Scottish Dyes), (P.), B., 550.
manufacture of (Ganssen and Görz), (P.), B., 387; (Thomson, Thomas, and Scottish Dyes), (P.), B., 903.

preparations of (I. G. FARBENIND.), (P.), B., 69*.

for acetate silk (Soc. CHEM. IND. IN BASLE), (P.), B., 650. intermediates for (Thomas, Drescher, and Scottish Dyes), (P.), B., 648; (Soc. CHEM. IND. IN BASLE), (P.), B., 697;

(Thomson, Thomas, and Scottish Dyes), (P.), B., 903. structure of, and their staining and therapeutic properties, (French), A., 281.

physical chemistry of (GICKLHORN), A., 624. optical sensitisation with (Burgherr), A., 1041.

selective, adsorbent, optical anisotropy of (Zocher and Jacoby), A., 931.

photochemical reactions of (ARIGA), A., 529. intensity of fluorescence of (VAVILOV), A., 497.

decay of fluorescence of solutions of (GAVIOLA), A., 7, 712. extinction of fluorescence of, in solutions (Levschin), A., 711.

extinction coefficients of (French), A., 1213. reduction potentials of (Aubel, Genevois, and Wurmser),

A., 316.

Dyes, electric charge and degree of dispersion of (FURTH; FURTH and Ullmann), A., 512 solutions of (LÜTTIN and GEIGY A.-G.), (P.), B., 600*. adsorption of, by silver halides (Sheppard), A., 107, 306. fixing of (I. G. FARBENIND.), (P.), B., 197. colloidal phenomena in solutions of (Holmes), A., 411. decomposition of, by solar radiation (BARAT and DUTT), A., 1006.standardisation of fastness of (Barker), B., 935. not fast to ironing (HALLER), B., 840. testing fastness of, to washing (TROTMAN), B., 552. light sources for testing fastness of (Hadfield), B., 905. effect of transmission of sunlight through glass on fading of (GRIFFITH and JENKINS), B., \$39. fastness of, on woollen and worsted fabrics (BARKER and HIRST; HEDGES, BARKER, HIRST, and LAMBERT), B., 811. binding medium for (STERN), (P.), B., 708. action of lead oxides on (Adamson and Wood), B., 324, 549. reactions of, with nitrous acid (Dubský and Okáč), A., 688. decolorisation of, by sodium hypochlorite in acid solution (Sevemetz and Chaise), B., 696. conversion of, into lake pigments (HARRISON), B., 246. anticoagulant power of (LEFROU), A., 277. germicidal action of solutions of (ECKFELDT and KOSER), A., 1220. effect of, on blood (Wales, Munch, and Schwartze), A., 1213. action of choline and histamine on excretion of, from blood (FARKAS and TANGL), A., 481. effect of hormones and organ extracts on excretion of, from blood (Tangl; Farkas and Tangl), A., 485. from condensation of 2-amino-5-arylaminothiophenols and quinones (Cassella & Co.), (P.), B., 325. from citraconic and itaconic acids (DHAR and DUTT), A., 969. from glyoxalinedicarboxylic acid (TEWARI and DUTT), A., 977. from di- and tetra-hydroxydiphenyldihydrocaoutchouc (GEIGER), A., 870. from 2-methylated indolenium salts and phenylhydrazine ROSENHAUER and FEILNER), A., 62. additive products of menthyl esters and \(\beta\)-naphthol (McClus-KEY and SHER), A., 363. on cellulose acetate, identification of (Keyworth), B., 932. for cellulose acetato silk (British Alizarine Co., Dawson, and SOUTAR), (P.), B., 211. for leather and wool, manufacture of (I. G. FARBENIND.), (P.), B., 772. new, for chroming on wool (Soc. Chem. Ind. in Basle), (P.), B., acid, manufacture of (I. G. FARBENIND, and FARBW, VORM. MEISTER, LUCIUS, & BRUNING), (P.), B., 598. combination of, with proteins (Chapman, Greenberg, and SCHMIDT), A., 686; (GORTNER), A., 1212. for wool (I. G. FARBENIND.), (P.), B., 809. acid and basic, absorption of, by hide powder (Gustavson), basic, fixation of, on cotton (I. G. FARBENIND.), (P.), B., 905. fixation of, on fibres (I. G. FARBENIND.), (P.), B., 215. adsorption of, by filter-paper (Mokruschin and Essin), fixation of, on vegetable parchment (CAILLE), B., 475. staining action of (HOLMES), A., 281. penetration of, into Nitella and Valonia (IRWIN), A., 72. printing with (SAZANOFF), (P.), B., 186. black, related to induliues and nigrosines, manufacture of (BUCHERER), (P.), B., 838. brown, for wool and leather (I. G. FARBENIND.), (P.), B., 213. coal-tar and vegetable, prohibited, detection of, in foods (Nicholls), B., 922.

GRASSELLI DYESTUFF CORP.), (P.), B., 965*.

pigment, preparation of (ORS), (P.), B., 387.

sulphur (KALLE & Co. and MERTE), (P.), B., 69*.

SCOTTISH DYES), (P.), B., 697.

Pakschwer), B., 837.

and King), B., 964.

B., 870*.

Dyes, sulphur-black (Zeller, Waldman and Nat. Aniline & CHEMICAL Co.), (P.), B., 598. vat, manufacture of (Rogers and Nat. Aniline & Chemical Co.), (P.), B., 102; (Cassella & Co.), (P.), B., 212; (I. G. Farbenind.), (P.), B., 274, 386, 773; (Badische Anilin- & Soda-Fabrik), (P.), B., 326; (Schmidt and Grasselli DYESTUFF CORP.), (P.), B., 405; (BRITISH DYESTUFFS Corp., Shepherdson, and Hailwood), (P.), B., 901. preparations of (Soc. Chem. Ind. in Basle), (P.), B., 650; I. G. Farbenind. and Farbw. vorm. Meister, Lucius, & Brüning), (P.), B., 869. and intermediates, manufacture of (Soc. CHEM. IND. IN Basle), (P.), B., 360. manufacture of intermediates for (BRIT. DYESTUFFS CORP., Shepherdson, and Hailwood), (P.), B., 901. electrolytic reduction of (BRYANS and Rowe), B., 808 reduction of, to leuco-derivatives (MARSCHALK), (P.), B., 550. production of leuco-esters from (WYLAM, HARRIS, DRESCHER, THOMAS, and Scottish Dyes), (P.), B., 869; (Morton SUNDOUR FABRICS, MORTON, WYLAM, HARRIS, and MORGAN), (P.), B., 901. production of combined shades of azo-dyes with, on vegetable fibre (I. G. FARBENIND.), (P.), B., 874* preparation of colour reserves with (Lauterbach and ENDERLIN GEBR. DRUCKFABR. & MECH. WEBERER), (P.), B., 277. preparation of stable water-soluble derivatives of (WYLAM, HARRIS, THOMAS, and SCOTTISH DYES), (P.), B., 40, 183, 773*; (WOLFRAM and DURAND & HUGUENIN), (P.), B., 965* application of (Rowe and Bean), B., 362. dyeing with (MITCHELL), B., 41. printing of (Wilson, Thomas, and Scottish Dyes), (P.), B., 840. of the anthraquinone series (I. G. FARBENIND, and FUNCKE), (P.), B., 136. of the 2-thionaphthen-2-indoleindigo series (Herz, Müller, and Grasselli Dyestuff Corp.), (P.), B., 136. sulphide, manufacture of (Soc. Chem. Ind. in Basle), (P.), B., 869. violet (HERZ and GRASSELLI DYESTUFF CORP.), (P.), B., 674. identification of, on cotton (VAIS), B., 775. water-insoluble (Du Pont de Nemours & Co.), (P.), B., 551. detection and determination of foreign matter in (Bohanes), B., 211. determination of carbon dioxide in carbonates in (Callan), B., 359. Dye effluents, treatment of (DARCO SALES CORP. and MAHLER), (P.), B., 510.

Dyeing (WYLAM, HARRIS, THOMAS, and SCOTTISH DYES), (P.), B., 550; (I. G. FARBENIND.), (P.), B., 776*. developing salts for (I. G. FARBENIND.), (P.), B., 277. preparations for generating diazonium salt solutions for use in (Badische Anilin & Soda-Fabr.), (P.), B., 41. improving fastness to rubbing of developed (CHEM. FABR. STOCKHAUSEN & CIE.), (P.), B., 650. with ice colours (I. G. FARBENIND.), (P.), B., 812. with phenylamine black (ARIS), (P.), B., 965*. with sulphur dyes and treatment with sodium bisulphite (JUSTIN-MUELLER and MICHEL), B., 475. with uni- or multi-colour effects (British Dyestuffs Corp., JACKSON, and CARTER), (P.), B., 105. with vat dyes (Leitch & Co., Everest, and Wallwork; Wilson, Thomas, and Scottish Dyes), (P.), B., 840. of soluble esters with leuco-vat dyes (Morton Sundour FABRICS, MORTON, WYLAM, HARRIS, and MORGAN), (P.), B., 901. jigs for (McCaic and Livingstone), (P.), B., 651. fast, production of fast-coloured discharges for (Corrox and machines for (DAVIS), (P.), B., 651 leuco-vat, sulphuric esters of (Drescher, Harris, Wylam, batik, reserves for (ROESSINGH), (P.), B., 650. THOMAS, and Scottish Dyes; Wylam, Harris, Thomas, and resists for (I. G. FARBENIND.), (P.), B., 756. cross-, of cellulose fabrics (WATSON and GATES), (P.), B., 553. naphthol, black sulphurised, manufacture of (MARSCHALK), (P.), fast, production of (Peterhauser and Durand & Huguenin), (P.), B., 874*. organic, oxidation of, on exposure to light (SCHARVIN and on fibres (A.-G. FÜR ANILIN-FABR.), (P.), B., 104. production of fast-coloured discharges in (I. G. FARBENIND. and FARBW. VORM. MEISTER, LUCIUS, & BRÜNING), (P.), Soledon, detection of complete development of, on wool (HIRST B., 363. mordant, protection of animal fibres in (I. G. FARBENIND.),

(P.), B., 363.

Dyeing, spot, of yarns (Eclipse Textile Devices and van Ness), (P.), B., 776.

of animal fibres (Durand & Huguenin), (P.), B., 775. in acid baths (Cassella & Co. and Haynn), (P.), B., 215. and fabrics (Wilkinson and Zair Syndicate), (P.), B., 439*.

of animal and vegetable materials (CHEM. FABR. MILCH and

LINDNER), (P.), B., 650.

of cellulose acetate (Leitch & Co. and Everest), (P.), B., 105; (Hoz, Bernoulli, Link, and Soc. Anon. Geigy), (P.), B., 139; (Soc. Chem. Ind. in Basle), (P.), B., 186; (British Celanese and Ellis), (P.), B., 216; (Baddiley, Shepherdson, Swann, Hill, Lawrie, and British Dyestuffs Corp.), (P.), B., 216*; (Rabe and Grasselli Dyestuffs Corp.), (P.), B., 407*; (I. G. Farbenind.; Lacroix), (P.), B., 964.

greenish-yellow shades on cellulose acetate (BADDILEY, HILL,

and British Dyestuffs Corp.), (P.), B., 105*.

of cellulose acetate materials (British Celanese, Ellis, and Goldthorpe), (P.), B., 475.

of cellulose acetate products (ELLIS and AMERICAN CELLULOSE

& CHEMICAL MANUF. Co.), (P.), B., 249*.
of cellulose acetate silk (BRITISH CELANESE and ELLIS), (P.),
B., 105; (I. G. FARBENIND.), (P.), B., 249, 776, 964; (BRITISH
DYESTUFFS CORP., SHEPHERDSON, and DAVIDSON), (P.),
B., 438; (BRITISH ALIZARINE CO., DAWSON, SOUTAR, and
WOOD), (P.), B., 812; (BRITISH DYESTUFFS CORP., BADDILEY,
CHORLEY, and BUTLER), (P.), B., 841; (I. G. FARBENIND. and
CHEM. FABR. GRIESHEIM-ELEKTRON), (P.), B., 936; (AKT.GES. FÜR ANILIN-FABR.), (P.), B., 964.

of "mixed" cellulose acetate threads, cords, and fabrics (British

CELANESE, PALMER, and FULTON), (P.), B., 905.

of cellulose derivatives (ELLIS and CELANESE CORP. OF AMERICA), (P.), B., 812*.

of cellulose esters (I. G. Farbenind.), (P.), B., 277, 363, 407, 553, 905; (Clavel), (P.), B., 553; (Rabe, Schepss, and Grasselli Dyestuff Corp.), (P.), B., 874*.

of cellulose esters and derivatives (I. G. FARBENIND.), (P.),

В., 215.

of cellulose esters and ethers (I. G. FARBENIND. and FARBW. VORM. MEISTER, LUCIUS, & BRÜNING), (P.), B., 438; (DREYFUS; BRITISH CELANESE and ELLIS), (P.), B., 650; (BRITISH DYESTUFFS CORP., HORSFALL, LAWRIE, and HILL), (P.), B., 776; (I. G. FARBENIND.), (P.), B., 874.

of cellulose ester fabrics (I. G. FARBENIND. and METZGER),

(P.), B., 9.

of cellulose films and plates (CZAPEK), (P.), B., 553.

of cotton with vat and azo-dyes (I. G. FARBENIND. and CHEM. FABR. GRIESHEIM-ELEKTRON), (P.), B., 755.

of immunised cotton (Sandoz Chemical Co. and Woodhead), (P.), B., 840.

of cloth for rubber-proofing (HOCKNEY and BANCROFT), B., 362.

of effect threads (Chemische Fabr. vorm. Sandoz), (P.), B., 812.

of felt or other hats, apparatus for (Charles), (P.), B., 841. of furs (Stein Fur Dyeing Co.), (P.), B., 249, 421; (British Dyestuffs Corp. and Horsfall), (P.), B., 438.

of furs, skins, feathers, etc. (SILVER SPRINGS BLEACHING &

Dyeing Co. and Hall, (P.), B., 475.

of india-rubber (Metzeler & Co), (P.), B., 948. of knitted or woven articles, vats for (Callebaut and De Blicquy), (P.), B., 329.

of leather (Casaburi), (P.), B., 216; (Salt), B., 260, 343;

(Lamb), (P.), B., 453.

with acid azo-dyes (I. G. Farbenind, and Farbw. vorm. Meister, Lucius, & Brüning), (P.), B., 329; (I. G. Farbenind), (P.), B., 407.

with multicoloured and black discharges (I. G. FARBENIND.), (P.), B., 216.

of neps (LAWRIE), B., 964.

of plastic materials (Badische Anilin- & Soda-Fabrik), (P.), B., 186.

of silk (I. G. Farbenind. and Chem. Fabr. Griesheim-Elektron; I. G. Farbenind.), (P.), B., 553; (Maupai), (P.), B., 775.

disposal of trade waste from (SNELL and BRUCE), B., 270. of silk and wool (I. G. FARBENIND.), (P.), B., 407.

of silk and wool with after-chroming dyes (Pokorny; Nieder-Hauser), B., 474. Dyeing of artificial silk (Duisberg, Hentrich, Zeh, and Grasselli Dyestuffs Corp.), (P.), B., 139; (British Dyestuffs Corp., Baddiley, Chorley, and Brightman), (P.), B., 520; (British Dyestuffs Corp., Baddiley, Chorley, and Butler), (P.), B., 812. with logwood (Bedford), (P.), B., 186.

of artificial cellulose silks (British Dyestuffs Corp., Baddiley, and Hill; British Dyestuffs Corp., Baddiley,

CHORLEY, and BRIGHTMAN), (P.), B., 518. of Celanese silk (CANDLISH), B., 215.

of washable silk goods (Seyer and Standard Silk Dyeing Co.), (P.), B., 186*.

of textiles (SMITH), (P.), B., 438.

of mixed textiles (I. G. Farbenind. and Farbw. vorm. Meister, Lucius, & Brüning), (P.), B., 520.

or coating of textiles (Two-Tone Corp. and Mijer), (P.), B., 105.

and washing of textiles (SCHLUMPF), (P.), B., 249.

of union materials of cotton and artificial silk (Alterhoff), B., 775.

of vegetable fibre (Voroshtzov and Staatliche Verein. Anilinfabr.), (P.), B., 905.

of viscose filaments and films (MENDEL and NEIDICH), (P.), B., 776.

of viscose silk, influence of tension and coagulation on (Lenner and Jüger), B., 775.
of viscose and acetate silk (Freyssingers, Weill, and Drege),

(P.), B., 699.

of wool (BADISCHE ANILIN- & SODA-FABRIK), (P.), B., 9, 71. of wool and silk (HOLLIDAY & Co. and SHAW), (P.), B., 874. with azo-dyes in the fibre (ORLOFF), B., 775.

of yarns and fabrics (British Celanese and Ellis), (P.), B., 215.

Dyeing apparatus for fabrics (Winter and Jordan), (P.), B., 747. Dyeing machines (Man Ams Chemical Engineering Corp.), (P.), B., 329; (Cowles Engineering Corp.), (P.), B., 553.

squeezing and guide rollers for (Berrish Cotton & Wool Dyers' Assoc, Barker, and Ellison), (P.), B., 105.

for loose stock, rags, etc. (MITCHELL), (P.), B., 700. for silk (CALLEBAUT and DE BLICQUY), (P.), B., 9.

Dynamite, low-density (Marshall and Du Pont de Nemours & Co.), (P.), B., 238.

Ē.

Earth, chemical composition of the (Washington), A., 1050. surface of the (Joly and Poole), A., 439, 538, 709; (Poole), A., 709.

penetrating radiation from the (BOGOIAVLENSKY and LOMAKIN),

radioactivity of basaltic magma of the (Poole), A., 709. heat of, and radioactivity (Lawson), A., 225, 493.

ionisation equilibria in atmosphere of stars and of the (Panne-коек), A., 288.

Earths, diatomaceous, preparation of (WILLIAMS and DIATOM INSULATION Co.), (P.), B., 96.

fuller's, action of acids and alkalis on (Weldes), B., 127. bleaching action of, on oils (Neumann and Kober; Keppeler), B., 493.

use of, in petroleum industry (RAUCH), B., 738. revivification of (TARBOX and EMLENTON REFINING Co.), (P.), B., 181.

spent, furnace for treatment of (WILSON and STANDARD OIL Co.), (P.), B., 626.

Japanese acid, catalytic action of (Inoue), A., 51; (Ono and Takeda), A., 464; (Ono and Miyazaki), A., 883.

moisture adsorbed by (ISOBE), A., 1135.
dehydration of cyclic terpene alcohols by (ONO), A., 156.
Kambara adsorption of neutral salts by (OKAWA), B. 205

Kambara, adsorption of neutral salts by (OIKAWA), B., 205. rare (SMITH), A., 1010.

magnetic susceptibility of (Zernike and James), A., 11. Röntgen-ray spectra of (van der Tuuk), A., 999. as activators of luminescence (Nichols and Howes), A., 7. ionisation potentials of (Piccardi), A., 811. thermionic properties of (Schumacher and Harris), A., 84. action of, on plant growth (Arena), A., 1225.

compounds of (Jantsen, Rüfing, and Kunze), A., 530. preparation of the acids of, by sodium salts (Schoeller and

¬ Јанк), А., 32.

Earths, rare, salts, solubilities of (James, Fogg, McIntire, Evans, and Donovan), A., 197.

ammoniates of chlorides of (EPHRAIM and BLOCH), A., 121. solubility of bromates of (Zernike and James), A., 14. double sulphates of alkali metals and (ZAMBONINI and STOLFI),

A., 112, 949; (ZAMBONINI and CAGLIOTI), A., 842; (ZAM-BONINI and RESTAINO), A., 949. polyphenolic complexes of (Fernandes), A., 52.

quantitative analysis of (Delauney), A., 847.

red, origin of (Eichinger), (P.), B., 21. Earthenware, microstructure of (Insley), B., 629.

Ebonite, manufacture of articles from (Fraser and Rissik, Fraser & Co.), (P.), B., 789.

Ebullioscope (Swientoslawski), A., 642.

Ebullioscopy, paradox in (BERTHOUD, BRINER, and SCHIDLOF), A., 1029.

Echinochrome (CANNAN), A., 271.

Eels, young fasting, influence of concentration on loss of weight of, in sodium chloride solution (D'Ancona), A., 899.

Effluents, industrial, determination of nitrogen compounds in (UTHE), B., 206.

liquor, disposal of, from gas works (PARKER; MONKHOUSE), B., 864.

determination of chlorine value of (BACH and GLÄSER), B., 926. determination of organic matter in (Abbott), B., 766. See also Sewage effluents.

Eggs, preservation of (Bellamy and Bellamy & Co.), (P.), B., 92; (BELLAMY and EGG PATENTS LTD.), (P.), B., 763*. and their products (MATZKA), (P.), B., 827. with wax (Fowler and Edser), (P.), B., 713.

effect of common salt on lime water used for (MILLER), B., 762. liquid (United Yeast Co., Salmon, and Jackson), (P.), B., 503.

effect of desiccation on nutritive properties of whites of (Boas), A., 797.

cold-storage, ammonia content of (LYTHGOE), B., 762.

hen's, amino-acids during incubation of (SENDJU), A., 894. ammo-acids in proteins of, during development (PLIMMER and Lownnes), A., 271.

insect, toxicity of 3:5-dinitro-o-cresol and its sodium salt towards (GIMINGHAM, MASSEE, and TATTERSFIELD), B., 87.

preserved, determination of sodium chloride in yolk of (ULEX), B., 857.

sca-urchin, rate of diffusion of water through (Lucke and McCutcheon), A., 696.

starfish, hydrogen-ion concentration of nucleus and cytoplasm in (Chambers and Pollack), A., 696. activation of, by acids (LILLIE), A., 696.

determination of freshness of (DINSLAGE and WINDHAUSEN), B., 91.

determination of benzoic acid in yolks of (Waltzinger), B., 122. Egg-albumin. See under Albumin.

Egg products, preparation of, for use as emulsifiers (Epstein), (P.), B., 955*.

Egg-yolk, fat-soluble vitamin in (BETHKE, KENNARD, and SASSA-MAN), A., 595.

analysis of, preserved with glycerin (Cockburn and Love), B.,

Eka-manganese (Seljakov and Korsunski), A., 814.

Elæostearic acid (Böeseken, Smit, Hoogland, and van den Вкоек), А., 1169.

Elaidic acid, configuration of (Böeseken and Belinfante), A., 132.

phenyl ester (SKRAUP and BENG), A., 560. dibromide of (HOLDE and GORGAS), B., 83.

determination of, in mixtures with oleic acid (VAN DER STEUER), B., 562.

Elaidicerin (André and François), A., 958.

Elaidyl alcohol, and its urethanes (ANDRÉ and FRANÇOIS), B., 706.

Elastin, hydrolysis of (Yaitschnikov), A., 686.

Electric arc, conductivity of clouds dispersed from (WALMSLEY),

for treating gases (AKTIESELSKAPET NORSK STAAL), (P.), B.,

shield for (Evans and Cutler-Hammer Manuf. Co.), (P.), B., 300.

low-voltage vacuum (Wolf), A., 1.

mercury, mechanism of (Compton and Van Voornis), A.,

Electric cables, paper insulation for (Felten & Guilleaume Carlswerk), (P.), B., 117, 185.

charge, measurement of ratio of mass to (Wolf), A., 913. conductors, hollow, manufacture of (METALLBANK & METAL-LURGISCHE GES.), (P.), B., 258.

current, high-tension insulating (Akt.-Ges. für Anilin-Fabr.), (P.), B., 303.

current density in relation to cathode fall (SEELIGER and REGER), A., 811.

discharge, devices for (British Thomson-Houston Co. and Brown), (P.), B., 226; (Charlton and Gen. Electric Co.), (P.), B., 943.

gas-filled device for (Holst, Oosterhuis, Bruijnes, and N.V. Phillips' Gloeilampenfabr.), (P.), B., 226*.

velocity of reaction in (ELLIOTT, JOSHI, and LUNT), A., 212. in gases (Levy), (P.), B., 145; (I. G. FARBENIND.), (P.), B., 320. using an exploring electrode (EMELEUS), A., 293.

combustion of gases in (FINCH and COWEN), A., 1146. rotation of, in decomposable gases (Gune and Lunet), A.,

glow, potential gradient in the positive column of (GÜNTHER-Schulze), A., 392.

high-frequency super-vacuum, spectra of (Wood and Loomis), A., 1008.

hot-eathode vacuum, in gases and metallic vapours (WOLF),

spark, chemical action in (Coward and Meiter), A., 318. tubes (N.V. Philips' Gloeilampenfabr.), (P.), B., 226.

removal of residual gases from metal easings of (Siemens-Schuckertwerke), (P.), B., 450.

gas-filled, electrodes for (N.V. PHILIPS' GLOEILAMPENFABR.), (P.), B., 562.

ionic, manufacture of (Radio-Röhren-Laboratorium G. Nickel.), (P.), B., 584.

neon-filled, manufacture of (MACHLETT), (P.), B., 339. double refraction in relation to polarity and optical anisotropy (RAMAN and KRISHNAN), A., 397.

time lags of, in liquids (BEAMS and ALLISON), A., 610. field in electrolytes, effect of concentration gradient on (ROLLER), A., 832.

furnaces. See under Furnaces.

fuse (Siemens & Halske), (P.), B., 450.

insulators. See under Insulators.

lamps, evacuation of bulbs of (Sproesser and Westinghouse Lamp Co.), (P.), B., 634..

vitreous containers for (EMERSON), (P.), B., 117.

manufacture of tungsten alloy filaments for (LAISE and ELECTRON RELAY CO.; PACZ and GEN. ELECTRIC CO.), (P.), B., 607.

"gettering" of filaments of (SPROESSER and WESTINGHOUSE LAMP Co.), (P.), B., 116.

are (DEVERS and GEN. ELECTRIC Co.), (P.), B., 116. nitric acid in air round (DADLEZ), A., 955.

mercury, photolytic effects of radiations from (Rousseau), A., 429.

tungsten (GEN. ELECTRIC Co. and PATENT-TREUHAND-

GES. FÜR ELEKT. GLÜHLAMPEN), (P.), B., 145.
gas-filled, filling for (SIEMENS & ENGLISH ELECTRIC LAMP
Co. and OAKLEY), (P.), B., 529.
gaseous-discharge (VAN VOORHIS and WESTINGHOUSE LAMP

Co.), (P.), B., 943.

incandescence (CAMPBELL and GEN. ELECTRIC Co.), (P.), B., 17; (Maurer), (P.), B., 116, 561; (N.V. Philips' GLOEILAMPENFABR.), (P.), B., 116, 584; (FONDA AND GEN. ELECTRIC CO.), (P.), B., 562*; (MACRAE AND WESTING-HOUSE LAMP CO.), (P.), B., 634; (HEANY), (P.), B., 727.

manufacture of (GEN. ELECTRIC Co. and PATENT-TREUHAND GES. FÜR ELEKT. GLÜHLAMPEN), (P.), B., 493.

getters for (Sproesser and Westinghouse Lamp Co.), (P.), B., 634.

filaments for (GEN. ELECTRIC Co. and PATENT-TREUHAND GES. FÜR ELEKT. GLÜHLAMPEN), (P.), B., 258; (FONDA and GEN. ELECTRIC CO.), (P.), B., 370; (COMP. DES LAMPES), (P)., B., 850.

getter for filaments of (MacRae, Richardson, and West-INCHOUSE LAMP Co.), (P.), B., 450.

metallic oxide coatings on filaments of (RICHARDSON and WESTINGHOUSE LAMP Co.), (P.), B., 416.

filament supports of (GEN. ELECTRIC Co. and SMITHELLS), (P.), B., 786.

Electric lamps, incandescence, treatment of filaments for, by spraying (British Thomson-Houston Co. and Inman), (P.), B., 705.

material to prevent blackening in (PATENT-TREUHAND GES. FÜR ELEKT. GLÜHLAMPEN), (P.), B., 850.

double (SAKAKURA), (P.), B., 196.

gas-filled (Westinghouse Lamp Co.), (P.), B., 257.

increasing strength of filaments of (Gustin and Westing-HOUSE LAMP Co.), (P.), B., 584.

getter for use in (Gustin and Westinghouse Lamp Co.), (P.), B., 850.

light, tube for, filled with carbon dioxide (PATENT-TREUHAND GES. FÜR ELEKT. GLÜHLAMPEN, EWEST, and SCHALLRENTER), (P.), B., 257.

rectifier (Charlton and Gen. Electric Co.), (P.), B., 943. wires, dielectric covering for (Allman, Morris, and Marlor),

(P.), B., 786.

Electrical conductivity, errors in measurements of (SMITH), A., 1031.

at low temperatures (McLennan and Niven), A., 925. electronic and ionic (TUBANDT, RINDTORFF, and JOST), A., 919.

in aniline solution (POUND), A., 521.

in isobutyl alcohol (Goldschmidt, Lund, Thuesen, Mathiesen, and Thomas), A., 208.

of crystals (Reis), A., 924.

of dielectrics (Saegusa), A., 293.

of strong electrolytes (DEBYE; MACINNES and COWPER-THWAITE; ONSAGER), A., 1031.

of electrolytes in fused acetamide (Belladen), A., 831.

of fluids, determination of (RUBEN), (P.), B., 17.

of gases, rectifier for (RAYTHEON MANUF. Co. and SMITH), (P.), B., 561.

of liquids, apparatus for determination of (Goldschmidt), A., 128.

of metals (Nazarov), A., 817.

of organic acids in methyl alcohol (GOLDSCHMIDT, MARUM, and Thomas), A., 1143.

of organic compounds and halogens as solids and liquids (RABINOVITCH), A., 113.

of salt solutions containing agar (IWASE), A., 1144. of solids (FRIEDERICH), A., 113; (FRIEDERICH and MEYER), A., 114; (TUBANDT and REINHOLD), A., 316.

of heavy metal sulphides (TUBANDT and HAEDICKE), A., 402. of vapours and liquids during incipient combustion (Ben-NETT), A., 1008.

conductors, application of alloys to manufacture of (SMITH,

GARNETT, and HOLDEN), (P.), B., 912. protective coating for (Tillouist), (P.), B., 727; (SÜDDEUTS. TELEFON-APPARATE-, KABEL-, & DRAHTWERKE A.-G.), (P.),

B., 944. heating-body for high temperatures (WECKERLE and STU-DIENGES. FÜR WIRTSCHAFT & IND.), (P.), B., 754*.

insulators. See under Insulators.

resistance grid (Evans), (P.), B., 195. of alloys, measurement of (JEFFERY), A., 1030.

resistances, containing silicon and carbon (Siemens Gebr. &

Co.), (P.), B., 257. high, manufacture of (BRADLEY and METROPOLITAN-VICKERS

ELECTRICAL Co.), (P.), B., 727. Electricity, mass production of (LANGBEIN-PFANHAUSER-WERKE),

(P.), B., 493. theory of local currents of (Centnerszwer and Straumanis), A., 1034.

smallest carriers of, in gases (Schilling), A., 708.

Electrocapillary curve (RICE), A., 13. Electrochemical cells. See under Cells.

resonance (Plotnikov), A., 20. Electrochemistry, twenty-five years of (BANCROFT), A., 419.

Electrodes, preparation of (EHRHARDT), (P.), B., 303. fixing terminals on (COMP. FRANC. L'EXPLOIT PROC. THOMSON-Houston), (P.), B., 493.

for batteries (PEPPER), (P.), 48.

for batteries and accumulators (Soc. Anon. LE CARBONE), (P.), B., 17.

for rectifiers and condensers (Andrews and Andrews-Hammond Corp.), (P.), B., 820.

for production of ozone (SHEARMAN), (P.), B., 144.

production of pure carbon coatings on (Dällenbach), (P.), B., 820.

Electrodes, arc, metal-coated (Swift and Swift), (P.), B., 529. carbon, rapid coking of (SCHUCHARDT), B., 257

suitability of pitch for (SCHUCHARDT), B., 135.

carbon and graphite, lessoning of destruction of, in electrolysis of chlorides (Königsberger Zellstoff-Fabr. & Chem.-WERKE KOHOLYT A.-G. and SCHLUMBERGER), (P.), B., 450. chlorine (Miller and Terrey), A., 421.

chromic-ohromous, equilibrium potential of (GRUBE and BREIT-INGER), A., 423.

fluorine, potential of (LATIMER), A., 23.

gold-auric oxide, potential of (GERKE and ROURKE; BUEHRER and Roseveare), A., 941.

gold-aurous oxide, potential of (BUEHRER, WARTMAN, and Nugent), A., 629.

gold-coated platinum, for hydrogen-ion and conductivity measurements (Shukov), A., 743.

graphite plate, cement for joining (WIECZOREK), (P.), B., 450. hydrogen (Lewis), A., 34.

use of, for organic bases (Prideaux and Gilbert), A., 1020. vessel for (Gerke and Geddes), A., 734; (Waterman), B., 799. poisoning of (Aten, Bruin, and De Lange), A., 839.

hydroquinhydrone, use of, in hydrogen-ion determination in

physiological fluids (GROSSMAN), A., 488. lead, for accumulators (STRASSER), (P.), B., 820.

magnesium, for electric discharge tubes (N.V. Philips' Gloei-LAMPENFABR.), (P.), B., 226.

mercurous chloride (calomel) (BRODSKI), A., 421. preparation of calomel for (PENNYCUICK and BEST), A., 35. substitute for (Ball), A., 434.

portable, for determination of hydrogen ions in the field (KAMERMAN), B., 919.

mercurous sulphate, for testing storage batteries (Makio), B., 913.

mercury alloy, use of, for determining activities in methyl alcohol (Wolfenden, Wright, Kane, and Buckley), A.,

mercury-mercurous bromide, potential of (GERKE and GEDDES), A., 734.

mercury-mercury chlorides, effect of hydrochloric acid on potential of (Carter, Lea, and Robinson; Carter and Robinson), A., 941.

metallic, electrolytic capacity of (SHIPLEY and GOODEVE), B.,

oxygen, diffusion (v. NARAY-SZABÓ), A., 208.

platini-platino-ehloride (MILLER and TERREY), A., 421.

platinum polarised, use of, in neutralisation (WRIGHT and GIBSON), A., 637.

platinum polished, use of, in conductivity measurements (Gerasimov), A., 113.

positive, for batteries (OPPENHEIM and Soc. ANON. LE CAR-BONE), (P.), B., 634; (CELLINO and CENTRAL BATTERY CORP.), (P.), B., 786.

quinhydrone, use of, in electrometric titrations (Rabinovitsch and KARGIN), A., 221.

potential of, with reference to the hydrogen electrode (BIIL-MANN and JENSEN), A., 421.

potential of, in copper sulphate solutions (O'SULLIVAN), A.,

measurement of potentials of blood with (Lin), A., 786. use of, in solutions of low buffer capacity (Kolthoff and Bosch), A., 221.

measurement of hydrogen-ion concentration by means of (CROWTHER), B., 856.

use of, with soil solutions (ITANO and HOSODA), B., 151; (ITANO, DRAKAWA, and HOSODA), B., 611; (BILMANN and Tovborg-Jensen; Brioux and Pien), B., 886.

reversible, thermodynamic theory of (Szyszkowski), A., 420. solid, electrochemical reduction of (FISCHBECK and EINECKE),

A., 1153. thermionic (British Thomson-Houston Co. and Mackay), (P.), B., 416.

Electrodeposition (Internat. Copperchad Co. and Robinson), (P.), B., 81.

See also Electroplating. Electrodialysis in biochemistry (Dhéré), A., 423, 600. technical applications of (Reitstötter), B., 849.

of soils by means of the Mattson cell (Clark, Humfeld, and Alben), B., 952.

of sulphite lye, fractions obtained by (Samec and Ribarić), ∴ B., 963.

334 Electro-endosmosis (HEPBURN), A., 422. of aqueous solutions through sintered glass diaphragms (FAIR-BROTHER and VARLEY), A., 826. Electrolyser for high-pressure systems (Noeggerath), (P.), B., for hydrogen and oxygen production (MONTECATINI Soc. GEN. IND. MINERARIA AGRICOLA and FAUSER), (P.), B., 81. Electrolysis, method and apparatus for (STUART and Hooker Electro-Chemical Co.), (P.), B., 492. Electrolysis, anodes for (MUNNING & Co.), (P.), B., 786. baths for (Pfanhauser and Langbein-Pfanhauser-Werke A.-G.), (P.), B., 492. without electrodes (CORBINO), A., 523. filter diaphragm for (BILLITER and SIEMENS & HALSKE), (P.), B., 196, 392. of molten alloys (KREMANN and TRÖSTER; KREMANN), A., 25. of water, apparatus for (ALLAN; SCOTT), (P.), B., 561. alternating-current (SHIPLEY and GOODEVE), B., 633. apparatus for (SAND and LLOYD), A., 38. Electrolytes, theory of (ONSAGER), A., 517. manufacture of (MILLER), (P.), B., 81. separation of (Speed and Western Electric Co.), (P.), B., 47. change in electrical conductivity of, due to ageing (DHAR), A., space charge in (Roller), A., 832. activity of (Brönsted), A., 1027. activity coefficients of (BRAY), A., 1140. electrical properties of solutions of, in various solvents (FREDEN-HAGEN), A., 936. dielectric constants of solutions of (Hellmann and Zahn), A., 7. heat of dilution of solutions of (GRosz), A., 940. effect of other electrolytes on solubility of, in non-aqueous solvents (Kraus and Seward), A., 1020. solution of, and their condition in solution (FREDENHAGEN), A., 936. mixed solutions of non-electrolytes and (SCATCHARD), A., 828. coagulation of colloids by (RABINOVITCH), A., 624. coagulation of sols by (GHOSH and DHAR), A., 617. binary, effect of gum acacia on conductivity of (Spencer and DRUMMOND), A., 934. fused, separation of constituents of, for use in treatment of ores (ASHCROFT), (P.), B., 492. heated, prevention of evaporation and oxidation of (WARLIмомт), (Р.), В., 492. mixed, electrochemistry of solutions of (HARNED), A., 828. solid, constitution of (FRERS), A., 521. strong, ionisation of (LA MER), A., 828. equivalent conductivity of (FERGUSON and VOGEL), A., 941. apparent diameters of ions in (Gronwall), A., 626. theory of solution of (BJERRUM), A., 1028. solubility of (HOLLUTA and MAUTNER), A., 828. in water (ÅKERLÖF), A., 198. dilution law for (Szyszkowski), A., 204, 415. statistical mechanics of (FOWLER), A., 1028. strong and weak, molecular structure of (Lowry), A., 1025, 1026. weak, complex formation in ionisation of (MEERWEIN), A., 836. Electrolytic apparatus (EWELL), (P.), B., 17; (KNOWLES), (P.), B., 81. diaphragms of filter-press type for (Pechkranz), (P.), B., 914. ions, theory of (Lorenz and Westenberger), A., 23. oxidation of organic compounds (FIELD and OWEN), (P.), B., 541. polarisation. See under Polarisation. reduction, theory of (MÜLLER), A., 840. rectifier (Keeler, Bensing, and Koelliker), (P.), B., 530. Electromagnets, metallic cores for (I. G. FARBENIND.), (P.), B., 493. Electrons, wave theory of (ALLIS and MÜLLER), A., 606; (DARwin), A., 916. considered as a gas (DE DONDER), A., 603. continuous existence of (MAIR), A., 181.

apparatus for discharge of (British Thomson-Houston Co.

emission of, from oxide-coated cathodes (ESPE), A., 603, 604.

reflexion of, in a vacuum (Brown and Whiddington), A., 287.

effect of light on, from hot filaments (CREW), A., 85.

kinetics of, from red-hot bodies (SYRKIN), A., 805.

and WARNER), (P.), B., 258.

Electrons, radiation from collision of protons and (Hughes and JAUNCEY), A., 1004. correspondence between radiation quanta and (LAWRENCE), A., §8. determination of charge on (WILLIAMS and VINCENT), A., 85. stream and space charge of, in dense gases (Skaupy and Daudt), ionisation of atoms by (Penning; Lawrence; Smyth, Harn-WELL, HOGNESS, and LUNN), A., 85. potentials in interior of a group of moving (BRICOUT), A., 85. masses of (SCHIDLOF), A., 1121. variable mass of (Jones), A., 287. with an axis (Thomas), A., 85. energy losses of (Jones and Whiddington), A., 492. velocity distribution of, emitted from small holes (Dalton and Baxter), A., 287. detachable, number of, in elements (KIMURA), A., 603. high-velocity, excitation of (DYMOND), A., 913. Lorentz, configuration of (WANG), A., 85. magnetic, divergence of (BOTHE), A., 1002. secondary, emission of (Sharman), A., 287. slow, chemical activity of (RABINOVITSCH), A., 708. bombardment of solids and gases by (DAUVILLIER), A., 181. energy loss of, in collisions with molecules (HARRIES), A., 391. spinning (Allen), A., 183; (Carrelli), A., 394. in relation to structure of spectra (GOUDSMIT and UHLENвеск), А., 1121. and wave mechanics (GUTH), A., 606. Electron discharge device (British Thomson-Houston Co. and LANOMUR), (P.), B., 850. Electron metal, production of weatherproof oxide layer on (PIEPER and Soellner Nachf. Reisszeugfabr.), (P.), B., 913. Electron theory of Lorentz, calculation of mean value in (Bur-SIAN), A., 710. Electron tubes, application of, in potentiometric titrations (WIL-LIAMS and WHITENACK), A., 434. Electro-osmosis of liquids containing dissolved or suspended materials, apparatus for (Electro-Osmose Latine), (P.), B., Electroplating (BRITISH THOMSON-HOUSTON Co. and JONES), (P.), B., 449. apparatus for (GÖTHE), (P.), B., 705. machine for (HULMER), (P.), B., 117. treatment of metals prior to (Soc. MÉTALLURGIQUE L'ARIÈGE), (P.), B., 606. of articles (Bek), (P.), B., 633. Electropy (KARCZAG), A., 514. Electrosherardising (Anon.), B., 490. Element, definition of (URBAIN), A., 392. of atomic number 61 (PRANDTL and GRIMM), A., 9; (ROLLA and Fernandes), A., 9, 31, 190; (Brunetti; Cork, James, and Fogg), A., 190; (PRANDTL), A., 431, 611; (HERSZFINRIEL), A., 501. of atomic number 87 (v. Hevesy), A., 289; (Herszfinkiel), A., 501. Elements, molecular structure of (MAKOVETZKI), A., 500. synthesis of (Loring), A., 87. transmutation of (PATERNO), A., 290; (Thomasson), A., 606; (SMITS), A., 1004. spiral chart of (PINETTI), A., 1049. disintegration of, by a-particles (KIRSCH and PETTERSSON), A., 493. thermal ionisation of (Saha, Sur, and Mazumdar), A., ISO. of atomic number 43, 61, and 75 (PRANDTL), A., 433, 611. of atomic numbers 43, 61, 75, 85, and 87 (Herszfinkiel), A., 501. between calcium and zinc, paramagnetism of (CARRELLI), A., 288. radioactive. See Radioactive elements. spectroscopic identification of (Porlezza and Donati), A., 124. Emetamine, and its salts (Brindley and Pyman), A., 682. Emetics, classification of (Darmois), A., 448. Emetine, constitution of (Späth and Leithe), A., 471. oxide (Polonovski and Polonovski), A., 1208. Emu. See Dromaius novæ-hollandiæ. Emulsifiability, relation between drop number and (SMITH and Dow), A., 935. Emulsification (MEAD and McCov), A., 622. agents for (I. G. FARBENIND.), (P.), B., 241; (JONES), (P.),

B., 254.

media for solution and (SCHMIDT), (P.), B., 237.

Emulsification apparatus (McGougan and Hunter; Butler and COLLOIDAL EQUIPMENT CORP.), (P.), B., 433.

Emulsifiers, production of (I. G. FARBENIND.), (P.), B., 548; (DISNEY and KERNOT), (P.), B., 755.

efficiency and dispersive power of (SMITH), B., 799.

preparation of egg products for use as (Erstein), (P.), B., 955*. laboratory (SMITH), A., 439. oil-soluble (MEAD and McCoy), A., 622.

Emulsin, influence of thorium X on activity of (MAUBERT), A., 1111.

Emulsions (LIMBURG), A., 17, 109.

preparation and dispersity of (STAMM), A., 308.

manufacture of (FINLEY and PARAFFINE Cos.), (P.), B., 403; (I. G. FARBENIND. and FARBW. VORM. MEISTER, LUCIUS, & BRÜNINO), (P.), B., 618; (I. G. FARBENIND.), (P.), B., 869. apparatus for (KIRSCHBRAUN), (P.), B., 64.

making and breaking of (DAVEY), A., 622.

average size of droplets in disperse phases of (DAVEY), A., 108. string formation of particles of, in an alternating electric field (MUTH), A., 310.

recovery of oil from (Dons and Hallauer), (P.), B., 245.

stabilisation of, by powdered solids (SCARLETT, MORGAN, and HILDEBRAND), A., 1139.

decomposition of, in the splitting of oils and fats (Petroff),

(P.), B., 755. antiscale, manufacture of (FILTRATORS, LTD., and SAKS), (P.), B., 433.

aqueous, of insoluble substances (CHEM. FABR. POTT & Co.), P.), B., 361.

bituminous (Soc. Rol Lister & Cie.), (P.), B., 182; (Kirsch-BRAUN), (P.), B., 301; (UNION FRANC. de CREDIT), (P.), B., 627; (Mineral A.-G. Brig; Montgomerie), (P.), B., 836, 836*.

for road-making (LEVY), (P.), B., 412; (UNIVERSAL RUBBER

PAVIORS and PEACHEY), (P.), B., 655.

bitumen or oil, preparation of (MINERAL A.-G. BRIG), (P.), B., 595. fat and oil, stabilisation of (Douglas, Loesch, and Douglas PECTIN CORP.), (P.), B., 451.

fat, cooling of (SCHRÖDER), (P.), B., 531. fate of, injected intravenously (v. Bodó and Scheffer; Scheffer), A., 990.

oil, treatment of (PESTER), (P.), B., 403.

separation of (Coggeshall, Reilly, and Jefferson Con-STRUCTION & OIL TREATING Co.), (P.), B., 901. permanent, production of (Leciller), (P.), B., 433.

petroleum, breaking of (DE GROOTE and BARNICKEL & Co.), (P.), B., 67, 163; (HARRIS and PETROLEUM RECTIFYING

Co. of California), (P.), B., 163; (De Groote, Adams, and Barnickel & Co.), (P.), B., 901. dehydration of (Eddy, Hanson, and Petroleum Rectifying

Co. of California), (P.), B., 35. treatment of (Averill and Barnickel & Co.), (P.), B., 436. separation of constituents of (BRÉGEAT), (P.), B., 182. production of benzine and kerosene from (DE KADT), (P.), B., 770.

size of drops in relation to toxicity of, to aphids (GRIFFIN, RICHARDSON, and BURDETTE), B., 710.

photographic. See under Photographic.

photohalide, synthetic, preparation and properties of (Wight-Man, Trivelli, and Sheffard), B., 925.

silver halide-gelatin, development of (Bürki), B., 925.

spraying (WOODMAN), B., 232. containing tar or oil, resolution of (ROBINSON and PARKES), (P.), B., 469.

water-in-oil, treatment of (DE GROOTE and BARNICKEL & Co.), (P.), B., 67.

resolution of (AYRES and SHARPLES SPECIALTY Co.), (P.), B., 836*

wool oil, stabilisation of (I. G. FARBENIND. and FARBW. VORM. MEISTER, LUCIUS, & BRÜNING), (P.), B., 451.

Enamels, antimony opacifying media in manufacture of (HAUPT and Popp), B., 411.

white opacifying media for (KREIDL), (P.), B., 332. coating articles with (Schoop), (P.), B., 221.

refractory value of ground coat in (Malinovszky), B., 442. action of mineral acids on (Kerstan), B., 411.

behaviour of fluorides in (AGDE and KRAUSE), B., 483, 702; (AGDE, KRAUSE, and LEHMANN), B., 654.

effect of addition of various electrolytes to suspensions of (Соок), В., 630.

Enamels, ageing of (WOLFRAM and TURK), B., 629.

defects in, due to cast iron (Malinovszky), B., 749.

antimony white (MELZER), B., 677.

easily fusible (Gen. Electric Co. and Patent-Treuhand Ges. für elekt. Glühlampen), (P.), B., 365.

ground-coat, for sheet steel (HARRISON and WOLFRAM), B., 779. variation of soda and boric oxide in (Fusselbaugh), B., 442. luminous (Jooss and Ficheroulle), (P.), B., 779. vitreous, enamelling plates or objects of fibrous cement with

(FIBREMO, SOC. CO-OPÉRATIVE), (P.), B., 655.

containing antimony, noxious properties of (Flury) B., 877. white, for steel cooking ware in China (Lai), B., 778. Enamel frit, solubility of, in mill water (COOK), B., 630.

Enamelling of metals (TOTOT-GIBARU), (P.), B., 109; (NOEL), (P.),

Enantiotropy and metastability (Cohen and Dekker), A., 818.

Endocamphene (LIPP, GÖTZEN, and REINARTZ), A., 568. 2:5-Endoxy-1:3:4-triazole, and its acetyl derivative

and SEN), A., 784. Endsapogenin, and its derivatives (WINDUS, HAMPE, and RABE),

A., 42. Energy, calculation of yield of, from homogeneous reactions (Jolibois and Montagne), A., 310.

tables of (Beattie), A., 101. of gases, relation between temperature and (Wertheimer),

A., 1132. of four-body systems (Niessen), A., 808.

internal, and absolute zero of entropy (Verschaffelt),

absoluto zero of controllablo (Kleeman), A., 520.

Engines, automotive, lubricant for (LOCKHART and STANDARD Oil Co.), (P.), B., 807.

combustion, explosion spectra of (Henne and Clark), B., 131. gasoline, combustion in (LOVELL, COLEMAN, and BOYD), B., 322. internal-combustion, history of (Kelly), B., 692.

fuel for (MEYER), (P.), B., 134; (PARKER), (P.), B., 807. knocking in (Morgan), A., 630; (Maxwell), B., 242, 737; (Brown and Watkins), B., 322.

apparatus for purification of air for (MULOT), (P.), B., 929. supplementary charges for (Kelty), (P.), B., 36. elimination of carbon monoxide in (v. WERTAUR and CAPLAN),

(P.), B., 515. oxidation of waste gases from (White), (P.), B., 385.

Enterokinase and trypsin (WALDSCHMIDT-LEITZ and LINDER-STRÖM-LANG), A., 698.

separation of typsin and (BECHHOLD and KEINER), A., 1221. Entropy, calculation of (MASIUS), A., 819.

and chemical constants (RODEBUSH), A., 718. changes of, on melting (Kordes), A., 314.

absolute zero of, and internal energy (Verschaffelt), A., 936. absolute zero of controllable (Kleeman), A., 520. of elements, corresponding states for (Bruzs), A., 626.

Enzymes, nomenclature of (SMORODINCEV), A., 696.

apparatus for culture of (VIGREUX and ETABL. POULENC Frenes), (P.), B., 589. purification of, by adsorption (Sherman, Caldwell, and

ADAMS), A., 74.

action of electric current on (Sadikov), A., 1222.

activity of, and temperature (BAKER), A., 482. specific activators of (v. EULER and NILSSON), A., 279. inhibition of action of, by fatty acids (Velluz), A., 699.

specificity of (Kostytschev), A., 173; (v. Euler and Josephson), A., 696.

influence of arsenic and antimony compounds on (Smorodincev and ILJIN), A., 792.

action of insulin on (SAMMARTINO), A., 380.

influence of the quinine group on (SMORODINCEV and DANILOV), A., 377.

of cow's milk (CHRZASZCZ and GORALOVNA), A., 372.

of plants, specificity of (Blagoveschenski and Sossiedov), A., 1111.

in soaps and cleansing materials (FISCHER), (P.), B., 258. disaggregating, existence of (OPPENHEIMER), A., 74. intestinal and pancreatic, specificity of (WALDSCHMIDT-LEITZ

and Waldschmidt-Graser), A., 698. lactic acid-forming, of muscle (Meyer), A., 590. oxidising, action of carbon monoxide on (DIXON), A., 1111.

proteolytic, manufacture of (WARSMAN), (P.), B., 235. of (WALDSCHMIDT-LEITZ, GRASSMANN, and specificity SCHLATTER), A., 1112.

Enzymes, proteolytic, of blood scrum (v. Falkenhausen), A., 787. proteolytic bacterial, preparation of (Schierce), A., 77. Schardinger's, effect of cyanides on (Dixon), A., 901. uricolytic (Schittenhelm and Chrometzka), A., 278. Enzymes. See also :---Glyoxalase. Amylase. Antiglyoxalase. Histase. Invertase. Arginase. Lipase. Carboxylase. Catalase. Maltase. Collagenase. Mutase. Co-zymase. Myrosin. Diastasc. Oxydase. Oxydorcduetase. Dipeptidase. Emulsin. Pepsin. Enterokinase. Peptidase. Phosphatase. Erepsin. Esterase. Phytase. Polypeptidase. Ferrase. Fructo-invertase. Raffinase. Fructosediphosphatase. Succinodehydrase. Gentianase. Trypsin. Urease. Gluco-invertase. Xanthine oxydase. Glycerophosphatasc. Enzyme action (FALK and Noves), A., 277, 483; (Noves and FALK), A., 483; (FALK, NOYES, and LORBERBLATT), A., 901. in relation to structure (PRZYLECKI, NIEDZVIEDZKA, and Majevski), A., 1113. mechanism of (Nord), A., 900. intensification of, by small amounts of substances (JACOBY), A., 378. Eötvös' law, kinetic theory of (SATô), A., 418. Eosin, ammonium salts of (ORNDORFF and HEMMER), A., 671. easium compounds of (Delaplace and Marinesco), A., 92. Ephedra, alkaloid from (Sміти), А., 1094. ψ -ephedrine from (Read and Feng), A., 1116. Ephcdra nevadensis, constituents of (Terry), A., 799. Ephedra vulgaris, ephedrine content of (Schoetzov and Needнам), В., 267. Ephedrine (TSIANG and Brown), A., 684. physiological action of (CHEN), A., 589. sulphate (Anon.), B., 713. ψ -Ephedrine, physiological action of (Chen), A., 589. dl-Epidicentrine, synthesis of, and its hydrochloride (Kitasato), Epiglucosamine, deamination of, and its osazone (Levene and SOBOTKA), A., 230. Epilepsy, treatment of (Talbot, Metcalf, and Moriarty), A., 1216. Equation of state for gases (Shiba), A., 195. validity of (Herz), A., 507. for gases and liquids (BEATTIE and BRIDGEMAN), A., 819. for gaseous mixtures (LENNARD-JONES and COOK; KEYES), for solids (VAN LAAR), A., 1031. van der Waals', at the critical point (Kirejev), A., 404. Equilibria between two liquids (ANGELESCU), A., 1030. in systems with semi-permeable membranes (Schreine-MAKERS), A., 22, 418, 731, 1031, 1142. in heterogeneous systems including electrolytes (Butler), A., 112. stable, of physico-chemical systems (Homes), A., 19. chemical, influence of adsorbents on (DUBRISAY and BRAVARD), A., 827. displacement of, at bounding surfaces (Deutsch), A., 732, 1022; (Kolthoff), A., 1022. complete heterogeneous (Schreinemakers), A., 1142. gaseous, between acids and bases (TIAN), A., 727. internal, and allotropy (Smits), A., 1027. ionic (Auméras), A., 312, 1141; (Vèzes). A., 515, 626. Erbium sulphate, double salt of cocaine and (PACE), A., 265. Erepsin, intestinal (Josephson and v. Euler), A., 175. Ergostanols, and their salts (REINDEL, WALTER, and RAUCH), Ergosterol, absorption spectrum of (MORTON, HELLBRON, and KAMM), A., 948; (HELLBRON, KAMM, and MORTON), A., 1123. η- and iso-Ergosterols, and their salts (REINDEL, WALTER, and

Rauch), A., 242.

Ergot, extraction of (LINNELL and RANDLE), B., 923.

Ergot alkaloids. See under Alkaloids.

extraction of total alkaloids from (STRAUB), (P.), B., 714.

biological assay of alkaloids of (Burn and Ellis), B., 427.

Ergot oil (DIETERLE, DIESTER, and THIMANN), A., 799; (MATTHES and Schütz), B., 891. Ergotamine, action of, on level of blood-sugar (Seidel), A., 1220. antagonism of calcium ions and (AGNOLI), A., 1220. Ergothioneine from ergot, identity of, with sympectothion and thiasine from blood (EAGLES and JOHNSON), A., 369. Eriostemon Coxii, essential oil of (Penfold), B., 458. isoErucic acid, and its zinc salt and derivatives (MIROHANDANI and Simonsen), A., 339. Erythrene dibromides, tautomerism of (Prévost), A., 748. Erythritol, reactions of (Prevost), A., 131. i-Erythritol, space-lattice of (Schönfeldt, Herrmann, and Hassel), A., 401. Erythrophlæum lasianthum, toxic principle of (KAMERMAN), A., 600. Erythrosin, constitution of, and its sodium salt (Holmes and Scanlan), A., 773. absorption spectra of solutions of (VAILLANT), A., 508. Eserine, extraction of (Chemnitius), A., 682. solutions, stability of (Krantz and Stama), B., 732. Esparto, production of cellulose and paper from (RINMAN), (P.), Essences, production of (Schoeppe), B., 732. Esters, preparation of (LOCQUIN and ELGHOZY), A., 543. from amide acid sulphates (ROESSLER & HASSLACHER CHEMICAL Co.), (P.), B., 348. preparation and hydrolysis of (GAY, MION, and AUMÉRAS), A., 14, 1053. manufacture of (I. G. FARBENIND.), (P.), B., 348, 571. from aldehydes (Young and Carbide & Carbon Chemicals Corr.), (P.), B., 618. production of mixtures of (CLAASEN), (P.), B., 860*. rate of formation of, in ethylene glycol (Kailan and Melkus), A., 749. hydrolysis of (Holmberg), A., 1169; (Kokatnur), (P.), B., 755. velocity of hydrolysis of (KINDLER), A., 55; (KINDLER, TREU, and Fürst), A., 338. relation of, to constitution (Olsson), A., 526. catalytic decomposition of, by nickel (Pearce and Ott), A., 215. addition of alkali alkoxides to (ADICKES), A., 41, 228. condensation products of (CARTER and U.S. INDUSTRIAL Alcohol Co., (P.), B., 380*. aliphatic, interaction of potassium m-tolyl oxide with (SMITH), Ä., 213. of inorganic acids, liquid, substitution of hydroxyl groups for acid radicals in (AYRES and HAABESTAD), (P.), B., 859. Esterase, liver, inhibition of, by esters of keto-acids (Willstätter, Kuhn, Lind, and Memmen), A., 793. Esterification (U.S. INDUSTRIAL ALCOHOL Co. and ARENTZ), (P.), equilibrium in (Swientoslawski and Poznanski), A., 204. in isobutyl alcohol (Goldschmidt, Lund, Thuesen, Mathiesen, and Thomas), A., 208. in mixed solvents (BHIDE and WATSON), A., 1036. Ethane, infra-red absorption spectrum of (MEYER and LEVIN), A., 918. effect of electric discharge in (LIND and GLOCKLER), A., 1039. thermal properties of (DANA), A., 1131. Ethane, chloro-derivatives, preparation of (I. G. FARBENIND.), (P.), B., 428. s-dichloro-, mixture of, with carbon tetrachloride, for use as fumigant (Cotton and ROARK), B., 862. aaβ-tri- and aaaβ-tetra-chloro-, action of, on magnesium phenyl bromide (Bert), A., 1051. pentachloro-, van der Waals' constants for (Weissenberger and Henke), A., 111. aa-chloronitroso- (Rheinboldt and Dewald), A., 229. nitro-, action of, on benzil (Kasiwagi), A., 246. compound of titanic chloride with (REIHLEN and HAKE), A., 219. Ethanesulphonyl chloride, a-chloro- (MÜLLER and SCHILLER), A., 672. Ether. See Ethyl ether. Ethers, formation of, from acetals (SIGMUND and MARCHART), A., 1054. from cyclohexanols (LACOURT), A., 761. electrochemistry of mixtures of bromine with (BRUNS), A., 832. decomposition of, by metallic sodium (Sohorigin), A., 54. enolic, catalytic hydrogenation of (WIELAND and GARBSCH), A., 54.

Ethers, phenolic, condensation of chloral and bromal with (HARRIS and Frankforter), A., 139.

Ethocaine borate (POPE), (P.), B., 29.

Ethoxalyl chloride, preparation of (Barré), A., 228; (Fourneau and Sabetay), A., 542; (Bert), A., 1054.

Ethoxide, aluminium, action of, on chloral (Dworzak), A., 42. aluminium magnesium and sodium, and magnesium sodium (CHEM. FABR. SCHERING), (P.), B., 316. sodium, action of, on ethyl β -thiodipropionate (Bennett and

SCORAH), A., 228.

on ethyl formate (Scheibler), A., 338.

4-Ethoxyacetonaphthone, ω-bromo-, and mono- and tri-chloro-(Housen and Fischer), A., 1079.

2-Ethoxyacetophenone, ωω-dichloro-3:5-dinitro-, and its osazone (CHATTAWAY and Morris), A., 967. 4-Ethoxyacetophenones, ω-bromo-, ω-chloro-, and ωωω-trichloro-,

and its derivatives (HOUBEN and FISCHER), A., 1079. Ethoxyacetylide, silver and sodium derivatives (Scheibler,

MARHENKEL, and Nikolić), A., 1168. 4-Ethoxyacridine, and its salts (MATSUMURA), A., 467.

4-Ethoxyacridone (Matsumura), A., 467.

Bz-2'-Ethoxybenzanthrone (Schirmacher, Zahn, Wilke, Ochwat, and Grasselli Dyestuff Corp.), (P.), B., 275.
6-Ethoxybenzonitrile, 2:3-diamino-, acetyl derivative, and 2-nitro-

3-amino-, and its acetyl derivative (Bogert and Taylor), A., 763.

5-Ethoxybenzthiazole, 1-amino-, and its tetrabromido hydrobromide (Dyson, Hunter, and Morris), A., 680.

p-(p-Ethoxybenzylideneamino)-a-methylcinnamic acid, ethyl ester, refractive index of (MAUGUIN), A., 499.

9-Ethoxybenzylidene-2-nitrofluorenes (LOEVENICH and LOESER),

2-Ethoxybornylene (Bredt-Savelsberg and Rumscheidt), A., 464. Ethoxycarbamide (Jones and Major), A., 754.

Ethoxycresol, 2:4:6-tribromo- (Bureš), A., 763.

N-Ethoxy-C-diethylbarbituric acid (Jones and Major), A., 754. 6-Ethoxy-1:1'-diethyl-2:2'-carbocyanine iodide (OGATA), A., 1089. 5-Ethoxy-5:6-dihydrouracil, 5:6-dihydroxy-(Biltz, Paetzold, and NACHTWEY), A., 259.

2-Ethoxy-4:6-dimethylbenzoic acid (v. Auwers, Herbener, and GAERTNER), A., 157.

2-Ethoxy-4:6-dimethylphenylglyoxylic acid, and its methyl ester (v. Auwers, Herbener, and Gaertner), A., 157.

2-Ethoxydiphenylamine-2'-carboxylic acid (Matsumura), A., 467. 10-Ethoxy-9-ethoxymethyl-9:10-dihydroanthracene, 1:5-dichloro-(BARNETT, COOK, and MATTHEWS), A., 141.

β'-Ethoxyethyl ether, β-hydroxy- (Davidson and Carbide & Carbon Chemicals Corp.), (P.), B., 859.

6-Ethoxy-2-β-hydroxyethenylquinoline, derivatives (OGATA), A., 1089.

Ethoxyketen diethylacetal (Scheibler, Marhenkel, and Nikolić), A., 1168.

4-Ethoxy-2-keto-3-phenyl-1:2:3:4-tetrahydroquinazoline (Reissert and SCHAAF), A., 62.

2-Ethoxy-8-methoxy-3-benzenesulphonylquinoline (Tröger and Krückeberg), A., 159.

a-Ethoxy -p- methoxyphenyl - 2 - hydroxy - 1 - naphthylacetolactone (Löwenbein and Schmidt), A., 1073. 4-Ethoxy-3-methylacetophenone, ωωω-trichloro- (Houben and

Fischer), A., 1079. 9-Ethoxymethylanthracene, 1:5-dichloro- (BARNETT, COOK, and

Matthews), A., 140. 5-Ethoxy-2-methylbenziminazole, 4-amino- (Bogert and Taylor),

A., 763. Ethoxymethyldihydrobrucidine methiodide (GULLAND, PERKIN,

and Robinson), A., 890. Ethoxymethyldihydrostrychnidine (CLEMO, PERKIN, and ROBINson), A., 888.

Ethoxymethylenebenzoylacetic acid, ethyl ester (Feist, Delfs, and Langenkamp), A., 151; (Weiss and Woldich), A., 250.

Ethoxymethylene-β-ketonic acids, esters, condensation of, with resacctophenone (Weiss and Woldich), A., 250. δ -Ethoxy- δ -methyl- η -pentan- β -ol (Hoffmann), A., 338.

2-Ethoxy-5-methylphenylglyoxylic acid, and its methyl ester (v. AUWERS, HERBENER, and GAERTNER), A., 157.

6-Ethoxy-4-methylquinoline, and its 2-carboxylic acid (CHEM. FABR. SCHERING), (P.), B., 380.

6-Ethoxynaphthaphenazine (FIESER), A., 59.

Ethoxynaphthaquinol diacetates (Fieser), A., 59.

2-Ethoxy-a-naphthaquinone, and 3-chloro- (FIESER), A., 59.

 β -Ethoxy-α-phenylcarbamide (Jones and Major), A., 754.

 δ -p-Ethoxyphenyldimethylthiocarbamide (Hunter and Styles),

β'-Ethoxy-a-phenyl-β-ethylcarbamide (Jones and Morgan), A., 754.

4-Ethoxyphenyl β -3-methoxy-4-ethoxyphenylethyl ketone, 2-hydroxy- (Tasari), A., 1078.

4-Ethoxyphenyl β - 3:4 - methylenedioxyphenylethyl (Tasari), A., 1078.

5-Ethoxy-3-phenyloxa-3:4-diazole, 2-imino- (Pellizzari), A., 163. β-Ethoxyphenylpropionic acid, α-chloro- (Jackson and Pasiut), A., 969.

5-Ethoxyphenyl styryl ketone, 2-hydroxy- (Simonis and Lear), A., 154.

Ethoxyphenylthiocarbamide, 2-nitro- (Dyson, George, and HUNTER), A., 351.

Ethoxyphenylthiocarbamides (Dyson, George, and Hunter), A., 351.

4-Ethoxyphenylthiocarbimide (Dyson, George, and Hunter), A., 351.

Ethoxyphenylthiocarbimides (Dyson, George, and Hunter), А., 3б1.

a-o-Ethoxyphenyl-βββ-triphenylethane (VAN ALPHEN), A., 867. 6-Ethoxypyrimidine, 2:4-dichloro- (Winkelmann), A., 678.

6-Ethoxyquinoline, 8-nitro- (FARBENDABR. VORM. BAYER & Co.),

(P.), B., 379. β -(6-Ethoxy-8-quinolinylamino)- δ -dimethylaminoisopentane (FAR-

BENFABR. VORM. BAYER & Co.), (P.), B., 379. 4-Ethoxy-2-thio-3-phenyl-1:2:3:4-tetrahydrogninazoline (Reissert and Schaaf), A., 62.

4-Ethoxy-2-thio-3-phenyl - 1:2:3:4 - tetrahydroquinazoline - 4 - carboxylic acid, ethyl ester (REISSERT and SCHAAF), A., 62.

3-Ethoxytoluene, 2:4:5:6-tetrabromo-, and 2:4:6-trichloro- (Bureš), A., 763.

Ethoxytriphenylethylene (MEISENHEIMER), A., 957.

 γ -Ethoxy-aa β -triphenyl- Δ a-propene (Meisenheimer), A., 957.

 β -Ethoxyvaleric acid, α -amino- (Osteuberg), A., 343.

Ethyl alcohol, production of, from cellulose and from wood (MUTTI and MONTALTI), B., 471.

from sugar fermentation (Jansen), (P.), B., 568. influence of hydrogen-ion concentration on fermentation velocity and yield of (Dehnicke and Kilp), B., 312

magnetic rotatory dispersion of, and its mixtures with water (STEPHENS and EVANS), A., 295.

dielectric constant of (SÄNGER), A., 713.

surface tension of (MILLS and ROBINSON), A., 927.

dehydration of (Barbet), (P.), B., 200; (Soc. Anon. des Distilleres des Deux-Sèvres), (P.), B., 428; (W., K., L., W., and F. Merck), (P.), B., 541; (SMITH), B., 570. dehydration of, for motor spirit (PETRLIK), B., 465.

dehydration and purification of (Soc. Anon. des Distilleries DES DEUX-SEVRES), (P.), B., 235, 889. distillation of (CLAPP and U.S. INDUSTRIAL ALCOHOL Co.), (P.),

B., 200; (U.S. INDUSTRIAL ALCOHOL Co.), (P.). B., 922.

distillation of mixtures of benzene, water, and (BARBAUDY), A., 313.

rectification of (Soc. Anon. des Distilleries des Deux-Sèvres), (P.), B., 857. partition coefficients of ions between water and (BJERRUM and

Larsson), A., 828. effect of temperature on solubilities in aqueous (WRIGHT),

A., 721.

solubility of mixtures of salts in (King and Partington), A., 1020.

influences of dissolved salts on miscibility temperatures of mixtures of parassins with (Howard and Patterson), A., 15.

inflammability of, and its mixtures with ethyl ether and methylcyclohexane (Tanaka, Nagai, and Akiyama), A., 834.

catalysis of decomposition of (Balarev and Kolev), A., 117. at the surface of thoria (HOOVER and RIDEAL), A., 215.

recovery of, in bakeries (Andrusiani), (P.), B., 504*. in bread (Simpson and Knight), B., 590.

denaturising of (TAGLIETTI and HIRSCH), (P.), B., 424.

reaction between aluminium, iodine, water, and (Jones and GREEN), A., 538. poisoning by. See under Poisoning.

production of, in the animal body (AOKI), A., 171.

physiological action of (Baglioni, Bracaloni, and Galamini), A., 375.

22

Ethyl alcohol, industrial, influence of aldehyde content of, on its use for lighting purposes (Dehnicke and Kilp), B., 34.

rectified, standards for (RAKOVSKI), B., 426. Rumanian industrial, analysis of (ZAHARIA and MOTZOC),

analysis of mixtures of ether, water, and (Chenel), B., 155. analyses of mixtures of methyl alcohol and water with (BERL and RANIS), B., 955.

attempted detection of, in case of arson (MAULHARDT), B., 570.

detection of adulterants in (HALEY), B., 92.

determination of (Tellera), B., 90. determination of, in nitro-cotton (Chenel), B., 204. determination of, in spirits (FEDER and RATH), B., 89. determination of methyl alcohol in (WILLIAMS), B., 686. determination of small quantities of water in (SMITH), B., 570.

determination of water in mixtures of benzene with (PETERS), B., 858.

Ethyl alcohol, $\alpha\beta$ -dibromo- (Stepanov, Preobraschenski, and Schtschukina), A., 42

Ethyl isoamyl sulphite (Bourgeois and Casteele), A., 444. bishyponitritoferrisulphide (Reinlen and v. Friedolsheim),

A., 951.

chloride, production of (SUIDA), (P.), B., 764*. occurrence, detection, and determination of, in perfumes (Sudendorf and Penndorf), B., 378.

aβ-dichloro-β-bromovinyl ether (Smith), A., 644.

γ-chloro-β-hydroxypropyl ether, β-chloro- (Fourneau and Ribas), A., 1052.

diacetone ether, and its derivatives (HOFFMAN), A., 338. Ethyl ether, ultra-violet absorption spectrum of (SMITH, ADAMS, and PEASE), A., 608; (DE LASZLO), A., 918.

spectra of phosphorescent flames of (EMELEUS), A., 7.

electrical conductivity of mixtures of arsenious bromide and (USSANOWITSCH), A., 315.

mobilities of ions in mixtures of hydrogen and (LOEB), A., S6. dielectric constant of (SÄNGER), A., 713.

specific heats of, near the critical point (Bennewitz), A., 315. specific heat, entropy and free energy of (PARKS and HUFF-MAN), A., 12.

pressure-volume-temperature relations for (Beattie), A., 615. equation of state for (BEATTIE and BRIDGEMAN), A., 819.

viscosity of (Archibald and Ure), A., 404.

at low temperatures (MITSUKURI and TONOMURA), A., 719. decomposition of the vapour of (HINSHELWOOD), A., 212. influence of hydrogen on decomposition of (HINSHELWOOD and ASKEY), A., 1036.

propagation of flame in mixtures of air and (WHITE), A., 317. explosion of mixtures of air and (Rosecrans), A., 318.

minimum energy required to ignite mixtures of air and, alone and with addition of ethyl bromide (NAGAI and FURIHATA), A., 943.

inflammability of, and its mixtures with ethyl alcohol and methylcyclohexanes (TANAKA, NAGAI, and AKIYAMA), A.,

preservative of, for anæsthesia (BIOKNESE), B., 668.

molecular compounds and molecular volumes of mixtures of hydrogen bromide and (Russell and Sullivan), A., 507. analysis of mixtures of ethyl alcohol, water, and (CHENEL), B., 155.

Ethyl ether, $\beta\beta'$ -dichloro-, as solvent for cellulose ethers or esters (LINDSAY and CELLULOID Co.), (P.), B., 388.

αβ-dichloro-αββ-tribromo- (SMITH), A., 644. ββ'-dichloro- (SCHOELLER), (P.), B., 460.

Ethyl Δ^{α} -heptenyl, Δ^{α} -propenyl, and vinyl sulphides (Loevenich, Losen, and Diericus), A., 538.

hydrogen sulphate, preparation of (COMP. DE BETHUNE), (P.), B., 859.

hydrogen, potassium, and sodium carbonates (FAURHOLT), A., 515.

hypochlorite, addition of, to cinnamic acid (Jackson and PASIUT), A., 969.

iodide, preparation of (Jones and Green), A., 538.

as antiknock material (Kettering, Midgley, and Gen. Motors Corp.), (P.), B., 771.

determination of (STARR and GAMBLE), A., 270.

mercaptan, reaction between ferrous hydroxide, nitric oxide, and (Reinten and v. Friedolsheim), A., 951.

nitrate, action of, on aromatic compounds (RAUDNITZ and Вёнм), А., 453.

propyl ketoxime (RHEINBOLDT and DEWALD), A., 852.

Ethyl sulphate, use of, in analysis of hydrocarbon oils (TAYLOR), B., 514.

thionitrite (Lecher and Siefken), A., 39.

Ethylacetonaphthone, $\beta\beta\beta$ -trichloro- α -hydroxy- (SEN and BARAT), A., 578.

Ethylacetoveratrone, $\beta\beta\beta$ -trichloro- α -hydroxy- (SEN AND BARAT), A., 578.

Ethylamine, surface tension of aqueous solutions of (SCHNELL),

additive compounds of, with mercaptanic platinum compounds (Rây, Bose-Rây, and Guha), A., 444.

Ethylaminoacetic acid, derivatives of (Skita and Wulff), A., 559.

α-Ethylamino-γ-anisylbutyric acid (Skita and Wulff), A., 766. β-Ethylaminobutyric acid, and its derivatives (Skita and Wulff),

a-Ethylaminoisohexoethylamide, and its hydrochlorido (v. Braun and Münch), A., 344.

Ethylamino-1-ketotetrahydronaphthalene, 7-hydroxy-, and its pierate (v. Braun and Jungmann), A., 258.

2-Ethylamino- β -naphthathiazole, and its tetrabromide (Dyson, HUNTER, and SOYKA), A., 263.

p-Ethylaminophenol, and its acetyl derivative (GALATIS), A., 763.

Ethylaminophenylarsenoacetic acid, $4-\beta$ -hydroxy-, hydrochloride (Palmer and Edee), A., 580.

o-Ethylaminophenylarsinic acid, and its silver salt and derivatives (Burton and Gibson), A., 1098.

a-Ethylamino-γ-phenylbutyrie acid, and its hydrochloride (SKITA and WULFF), A., 765.

α-Ethylamino-ε-phenylhexoic acid (Skita and Wulff), A., 766. 4-Ethylaminophenyltetra-arsenoacetic acid, β -hydroxy- (Palmer and Edee), A., 580.

a-Ethylaminopropionisoamylamide (v. Braun and Münoh), A., 345.

α-Ethylaminopropionic acid, and its derivatives (Skita and Wulff), A., 559.

2-Ethylaminopyridine chloroiodide hydrochloride (CHEM. FABR. vorm. Schering), (P.), B., 572.

Ethylaminotetrophan, 2-hydroxy- (v. Braun and Jungmann),

Ethylanhydrotris-o-aminobenzaldehyde (Bamberger), A., 361. Ethylaniline, reaction of, with ethylene oxide (GABEL), A.,

9-Ethylanthracene, 1:5-dichloro-, and 1:5-dichloro-a-bromo- (BAR-NETT, COOK, and MATTHEWS), A., 140.

Ethylbenzene, electrochemical oxidation of (Ono), A., 348. Ethylbenzene, a-chloro-, reactions of (WARD), A., 453. 4:6-dichloro-3-amino- (I. G. FARBENIND.), (P.), B., 743.

Ethylbenzenesnlphonic acid, 3:4:5-trihydroxy-2-β-amino-α-hydroxy-, anhydride of, and its hydrochloride (Hinsberg and MEYER), A., 1071.

1-Ethyl-6:7-benzobenzpyrazolone. 1-Ethyl-aβ-naphthpyr-See azolone.

p-Ethylbenzoic acid, ethyl ester (KINDLER, TREU, and FÜRST), A., 339.

Ethyl-o-benzoylbenzoylglycine (Bettzleche, Menger, and Wolf), A., 45.

1-Ethylbenzpyrazolone, and its hydrochloride (Stollé, Nieland, and MERKLE), A., 885.

 β -Ethylbutane- $\gamma\delta\delta$ -tricarboxylic acid, β -hydroxy-, and its γ -lactone (SIRCAR), A., 756.

5-Ethyl-5-n-butylbarbituric acid, dialkylammonium salts (Vol-WILER and ABBOTT LABORATORIES), (P.), B., 380.

α-Ethylbutyrdiethylamide, α-hydroxy- (BARRÉ), A., 447. 1-Ethylcarbamylhydantoin (BILTZ and HEIDRICH), A., 1094.

1-Ethylcarbamyl-3-methylhydantoin (BILTZ and HEIDRICH), A., 1094.

Ethyl-3-carbomethoxypyridinium chloride, β -hydroxy- (Barnes and ADAMS), A., 673.

Ethylcarbonatohomovanillic acid, and its derivatives (KITASATO), A., 1095.

Ethylcarbylamine, effect of, on biological oxidation (Emerson and Buchanan), A., 1110.

Ethylisocorybulbine salts (v. Bruchhausen and Stippler), A., 683. α-Ethylcrotonamides, isomeric (MACQ), A., 653.

a-Ethylcrotononitriles, isomeric (MACQ), A., 653.

m-(Ethyl-β-diethylaminoethylamino)phenol (FARBENFABR. VORM. BAYER & Co.), (P.), B., 379.

9 - Ethyl - 9:10 - dihydroanthracene, 1:5-dichloro-9:10-dibromo-abromo-, and 1:5-dichloro-9-hydroxy- (BARNETT, COOK, and MATTHEWS), A., 140.

10-Ethyl-5:10-dihydrophenarsazine, and its iodide (Aeschlimann),

A., 368.

Ethyl-∆2:6-dihydrophthalide (BERLINGOZZI, MENNONNA, PALMA), A., 560 Ethylene, infra-red absorption spectrum of (MEYER and LEVIN),

A., 918.

action of silent discharge in (DEMJANOV and PRIANISHNIKOV),

density of (STOCK and RITTER), A., 506.

use of, as companion gas in density determinations (Stock and RITTER), A., 102. adsorption of, by catalytic copper (GRIFFIN), A., 1038.

energy and fugacity of mixtures of argon and (Gibson and Sosnick), A., 1027.

catalytic hydrogenation of (Morris and Reverson), A., 839.

catalytic decomposition of (WALKER), A., 837.

catalytic combination of hydrogen and, in presence of copper (Pease and Harris), A., 1151.

action of nitric acid on (MoKie), A., 643.

action of, on starch (REA and MULLINIX), A., 961.

from coke-oven gas, conversion of, into alcohol (GLUUD and Schneider), B., 209.

and its homologues, formation of oils from (Otto), B., 930. dibromide, toxicity of (Thomas and Yant), A., 900.

dichloride, cheap (KILLEFFER), B., 540.

chlorohydrin, ultra-violet absorption spectrum of (SMITH, ADAMS, and PEASE), A., 608; (De Laszlo), A., 918.

sulphides, polymeric, constitution of (Bell, Bennett, and Носк), А., 958.

derivatives, stereoisomeric (LE Bel), A., 38.

Ethylene, trichloro-, as solvent in determination of fats (GROSS-FELD), B., 754.

action of, on magnesium phenyl bromide (BERT), A., 1051. Ethylene glycol, rate of ester formation in (KAILAN and MELKUS), A., 749.

ethers, use of, in lacquers (GARDNER and VAN HEUCKEROTH), B., 684.

alkyl ethers, manufacture of (DAVIDSON and CARBIDE & CARBON CHEMICALS CORP.), (P.), B., 237. a-anthranyl ether (I. G. FARBENIND.), (P.), B., 324.

dinitrate, properties of (RINKENBACH), B., 27.

Ethylene glycol, thio- (BENNETT and BERRY), A., 870.

Ethylene oxide, reaction of, with methyl- and ethyl-anilines (GABEL), A., 962.

Ethylene oxide, bromo-. See Glycollaldehyde, bromo-. Ethylene oxides, isomerisation of (Levy and Sfiras), A., 662. action of catalysts on hydration of (Fourneau and Ribas), A., 131.

condensation of alcohols with (Fourneau and Ribas), A., 1052.

Ethylenediaminocupric salts (Morgan and Burstall), A., 753. NN'-Ethylenebis- β -amino- α -chloroacetylerotonic acid, ethyl ester, (BENARY), A., 1058.

NN'-Ethylenebis- β -aminocrotonic acid, acylation of derivatives of (BENARY), A., 1058.

NN'-Ethylenebisbenzoylacetonamine (Benary), A., 1059.

NN'-Ethylenebis-N-benzoylacetylacetonamine (Benary), A., 1059. NN'-Ethylenebis-N-chloroacetylacetylacetonamine, \mathbf{a} nd

hydroxy-derivatives (Benary), A., 1059. NN'-Ethylenebisdiacetonitrile, and its derivatives (Benary), A., 1059.

1:1'-Ethylenebis-2-hydroxylamino-3-keto-5-methylpyrroline-4-carboxylic acid, ethyl ester (Benary), A., 1059.

1:1'-Ethylenebis-3-hydroxy-5-methylpyrrole-4-carboxylic ethyl ester, and its ferric chloride derivative (Benary), A.,

1:1'-Ethylenebis-2-nitrimino - 3 - keto - 5 - methylpyrroline - 4 - carboxylic acid, ethyl ester (BENARY), A., 1059.

Ethylenediamine, substitution by, in complexes of ammonia (Јов), А., 546.

Ethylenequinoline, 2-β-hydroxy-, ethiodide (Ogata), A., 1089. 4:5-Ethylenetetrophan (v. Braun and Reutter), A., 258.

Ethylenic compounds, effect of rate of reaction on formation of, from acetylenic compounds (OTT and SCHRÖTER), A., 441. cis- and trans-Ethylenio compounds, differentiation of (PAUL and

Schiedewitz), A., 646.

Ethyleosin, determination of (Holmes and Scanlan), A., 1213.

γ-Ethylfructoside (Allpress, Haworth, and Inkster), A., 752. Ethylgallic acid, 2-β-amino-a-hydroxy-, derivatives of (Hinsberg and MEYER), A., 1071.

δ-(a-Ethyl)-η-heptane, a-amino-, and its chloroplatinate (Billon), A., 879.

γ-Ethylheptane, γδ-imino-, and its salts (Theunis), A., 653. γ-Ethyl-Δγ-heptene (Theunis), A., 653.

γ-Ethylheptyl γ-nitrite (Theunis), A., 653.

Ethylhexahydrophthalide (Berlingozzi, Mennonna, and Palma), A., 561.

a-Ethylcyclohexane-1-acetic acid, 1-hydroxy-, amides from (Kon and NARAYANAN), A., 878.

a-Ethyl-∆1-cyclohexenylacetic acid, silver salt and derivatives of (Kon and Narayanan), A., 873.

a-Ethyl-41-cyclohexenylacetone, semicarbazones from (Kon and NARAYANAN), A., 873.

a-Ethylcyclohexylacetic acid, 1-hydroxy-, and its silver salt (Kon and Narayanan), A., 873.

5-Ethyl-5-n-hexylbarbituric acid (Dox and Parke, Davis & Co.), (P.), B., 734.

a-Ethylcyclohexylideneacetic acid, and its silver salt and derivatives (Kon and Narayanan), A., 873.

Ethylhydrobenzoins, isomeric, and their acetonyl derivatives (TIFFENEAU and LEVY), A., 1185.

δ-(a-Ethyl)-δ-hydroxymethyl-η-heptane, a-amino-, and its salts and derivatives (BILLIN), A., 879.

 ϵ -(a-Ethyl)- ϵ -hydroxymethyl- η -nonane, a-amino-, and its salts and derivatives (Billon), A., 879.

Ethylideneacetonaphthone, trichloro- (Sen and Barat), A., 578. Ethylideneacetophenone. See Phenyl propenyl ketone.

a-Ethylidene-N-allylcampholidone (Salmon-Legagneur), A., 1082. a-Ethylidene-N-benzyleampholidone (Salmon-Legagneur), A., 1082.

a-Ethylidenecampholidene, and its salts and derivatives (SALMON-LEGAGNEUR), A., 1082.

Ethylidenemalonic acid, ethyl ester (LOEVENICH, LOSEN, and DIERICHS), A., 538.

a-Ethylimino-β-anisylidenepropionic acid (Skita and Wulff), A., 765.

a-Ethylimino- β -benzylidenepropionic acid (Skita and Wulff), A., 765.

a-Ethylimino- β -cinnamylidenepropionic acid (Skita and Wulff), A., 766.

3-Ethylindole-ωω-dicarboxylic acid, and its ethyl ester (MAURER and Moser), A., 255.

Ethyl-3-morpholone, 1-hydroxy-, and its chloroplatinate (KIPRIAnov), A., 343.

1-Ethyl-aβ-naphthpyrazolone (Stollé, Nieland, and Merkle), A., 1204.

N-Ethyl-6-nitroindazoles (v. Auwers and Demuth), A., 260. a-Ethylcyclopentane-1-acetic acid, 1-hydroxy-, amides from (Kon

and NARAYANAN), A., 878. a-Ethylcyclopentane-1:1-diacetic acid, and its silver salt (Kon and NARAYANAN), A., 873.

γ-Ethylpentan-δ-ol-β-one (Colonge), A., 449.

 β -Ethyl- $\Delta\beta$ -pentenoic acid, derivatives of (Linstead), A., 445. y-Ethyl-Δr-penten-β-one, and its derivatives (Colonge), A., 449.

a-Ethyl-∆1-cyclopentenylacetic acid, and its silver salt and derivatives (Kon and Narayanan), A., 873.

a-Ethyl-∆1-cyclopentenylacetone, derivatives of (Kon and Nara-YANAN), A., 873.

2-Ethyl-2-41-cyclopentenylcyclopentanone, and its derivatives (Kon and Nutland), A., 153.

a-Ethylcyclopentylideneacetic acid, and its derivatives (Kon and NARAYANAN), A., 873.

10-Ethylphenoxarsine sulphide (AESCHLIMANN), A., 368.

p-Ethylphenylthioacetdimethylamide (KINDLER), A., 759.

2-Ethylphthalide, 5-eyano- (Tasman), A., 1186. Ethylpiperidine, β -hydroxy-, hydrochloride (BARNES and ADAMS),

A., 673. 2-Ethyl-2-isopropenylcyclopentanone, and its derivatives (Kon and Nutland), A., 153.

Ethyl isopropyl ketone, and its p-nitrophenylhydrazone (PRINGS-HEIM and Schreiber), B., 720.

Ethylquinol diacetate (Öno), A., 348.
"3-Ethylsaccharin," C-hydroxy-, and its diacetyl derivative (Oddo and Mingoia), A., 874.

Ethylsulphonyl chloride, β-bromo- (MARVEL, BAILEY, and SPAR-BERG), A., 863.

Ethylsulphonylbenzene-2:4-disulphonyl chloride (Pollak, Deut-SCHER, and KRAUSS), A., 866.

Ethylsulphonylbenzenesulphonic acid, and its potassium salt (POLLAK, DEUTSCHER, and KRAUSS), A., 866.

Ethylsulphonyldisulphonic acid, and its potassium salt and chloride (Pollak, Deutscher, and Krauss), A., 866.

N-Ethyl-ar-tetrahydro-a-naphthylamine, and its acctyl derivative (Soc. CHEM. IND. IN BASLE), (P.), B., 808.

N-Ethyltetrahydroquiuoline oxide, resolution of, and its salts

(Dodonow), A., 1085. Ethyltetramethylporphindipropionic acid, bromobromohydroxy., and its salts and dimethyl ester (FISCHER and KOTTER), A., 1094.

6-Ethyltetrophan (v. Braun and Stuckenschmidt), A., 258. S-Ethyl-\(psi\)-thiocarbamide, preparation of derivatives of (Chem. FABR. SCHERING), (P.), B., 172.

Ethylthiocarbimide, piperazine derivative of (Rosenthaler),

p-Ethyldithiocarbonatophenoxyacetie acid (Behaghel), A., 149. 2-Ethylthiol-4:5-diphenyl-1:3:4-thiodiazine (Bose), A., 63.

2-Ethylthiolmethylglyoxaline, and its salts (Balaban and King), A., 977.

2-Ethylthiolmethylglyoxalinecarboxylic acid, and its ethyl ester and their derivatives (BALABAN and KING), A., 977.

2-Ethylthiol-1:4-naphthaquinone (Récsei), A., 1079.

2-Ethylthiol-6-oxypyrimidine-d-glucoside, and its tetra-acetyl derivative (HAHN and LAVES), A., 1057.

2-Ethylthiol-4-phenyl-5-p-tolyl-1:3:4-thiodiazine (Bose), A., 64. Ethylurethane, outcotic mixture of camphor and (MIGLIACCI and Cald), B., 505.

Ethylxanthanoic acid (Conant and Garvey), A., 1177.

Encalypts, immature, mechanical pulp from (Benjamin), B., 871. Eucalyptus calophylla. See under Marri kino.

Eucalyptus dives, occurrence of varieties of, as determined by analyses of the essential oils (Penfold and Morrison), B., 858. Eucalyptus oil (Penfold), B., 28.

determination of cineole in (ESSENTIAL OIL SUB-COMMITTEE), B., 506.

Eucalyptus polybractea, essential oil from (EARL and TRIKOJUS), A., 52.

Eucasin (RAKUZIN and BRAUDO), B., 154.

Eudesmene, isomeric (Ruzicka and Capato), A., 569.

Eudesmol, constitution and derivatives of (RUZICKA and CAPATO), A., 569.

Eugels, cationic exchange in (Wiegner and Jenny), B., 718. Eugenol, detection of (ENKLAAR), B., 267.

Europium, arc spectrum of (Piña de Rubies), A., 82, 178, 390. Europium salts (SARKAR), A., 325.

Evaporating bath with superheated steam (KATTWINKEL), A., 642. Evaporation (BADGER and SWENSON EVAPORATOR Co.), (P.), B., 95.

influence of centrifugal force on rate of (MACK), A., 195. of liquids (MORTERUD), (P.), B., 800.

of solutions by spraying and drying (Nordström), (P.), B., 463. Evaporation apparatus (Blair and Blair, Campbell & MoLean, LTD.), (P.), B., 95; (HADAMOVSKY), (P.), B., 832; (BERTEN & Co.), (P.), B., 928. for liquids (Wiegand), (P.), B., 688.

Evaporators (AIKEN), (P.), B., 2, 352; (HILLIER), (P.), B., 32, 896; (TER HALL), (P.), B., 383; (PRICE and GRISCOM-RUSSELL Co.), (P.), B., 464.

for steam power plants (Akt.-Ges. Brown, Boveri & Co.), (P.), B., 32.

vacuum (Heller), (P.), B., 207; (Devaucelle), (P.), B., 383.

Evolution, organic, chemical aspects of (Drummond), B., 428. Expansion coefficient at high temperatures (Becker), A., 95. Explosions, mechanism of (Rosecrans), A., 318.

photographic records of waves of (CAMPBELL and WOODHEAD), A., 833.

gaseous (Brown and Watkins), B., 243, 322.

initial stages of (BONE, FRASER, and WINTER; BONE, FRASER, and WITT), A., 424.

ionisation in (Saunders; Saunders and Sato), A., 605. Explosives (Scott), (P.), B., 126; (DAVIS), (P.), B., 204; (Segay), (P.), B., 350*; (DE WILDE and Soc. Suisse des Explosies; Guilhon), (P.), B., 894.

manufacture of (BERGEIM and DU PONT DE NEMOURS & Co.), (P.), B., 830; (Scott and Mexco, Ltd.), (P.), B., 862. theory of reaction of (MURAOUR), B., 126, 736.

Explosives, "force" and other constants of (YAMAGA), B., 716. pressure waves from (PAYMAN and SHEPHERD), B., 30.

photographic measurement of detonation of (Perrott and GAWTHROP; URBANSKI), B., 204.

intensity of action of (SCHMILAUER), (P.), B., 381.

propagation of detonation between two cartridges of (Perrott and GAWTHROP), B., 350.

apparatus for studying ignition of mixtures of inflammable gas and air by (PERROTT and GAWTHROP), B., 958.

ammonium nitrate (SYMMES and HERCULES POWDER Co.), (P.), B., 158.

replacement of nitroglycerin in (Kast), B., 925. sensitised (Snelling and Trojan Powder Co.), (P.), B.

318. azidonitrate (BERGEIM and DU PONT DE NEMOURS & Co.), (P.), B., 380.

blasting, gaseous products of explosion of (Thorburn), B., 803,

gelatinous, glycol dinitrate as basis of (Schmid), B., 926. liquid-air (Bunge), B., 716. brisant (Flürscheim), (P.), B., 381.

coal mining (SNELLING and TROJAN POWDER Co.), (P.), B., 622. perchlorate, stability of, on storage (VANDONI), B., 716.

flashless, manufacture of (Du Pont and U.S.F. Powder Co.), (P.), B., 542.

gaseous, porous masses for storago of (DALEN and AMERICAN GAS-ACCUMULATOR Co.), (P.), B., 358*

high (Swint and Du Pont de Nemours & Co.), (P.), B., 204. hydrogen peroxido (Bamberger and Nussbaum), B., 716. containing hygroscopic materials (Besson), (P.), B., 894. initiating, properties of (Kast), B., 61.

nitroglucoside (Moran and Du Pont de Nemours & Co.), (P.), B., 622.

on-solvent propulsive (Bombrini Parodi-Delfino and Benelli), (P.), B., 269. non-solvent

liquid oxygen, absorbent (Mott, Dahlbero, and Purox Co.), (P.), B., 204.

safety (Soc. Gén. Fabr. Dynamite), (P.), B., 509. solid, detonation wave from (Holmes), B., 429.

Extinction coefficients, determination of (BALY and RIDING), A., 183.

with diverging light (VILLARS), A., 402. Extraction, continuous (WAGENAAR), A., 128.

rapid (Kuhlmann), A., 1049. Extraction apparatus (HOLZHEUER), (P.), B., 856*. for heavy and light liquids (WAGENAAR), A., 850. for powders (Palkin and WATKINS), B., 399.

continuous (CLARK), B., 399.

by dialysis (Danckwortt and Pfau), A., 438.

reflux (Buel and Internat. Patents Development Co.), (P.), B., 768.

Eye, particles causing scattering of light in the lens of (Pox-ROWSKI), A., 308.

composition of aqueous humour of (IKEBATA), A., 692. biochemistry of the aqueous humour of (DUKE-ELDER), A., 272. protection of, of chemical workers (Hannum), B., 687.

Fabiana imbricata, constituents of stems of (EDWARDS and Rogerson), A., 995.

Fabiatrin (EDWARDS and ROGERSON), A., 995.

Fabrics, machines for washing of, with liquids (MITCHELL), (P.), B., 872.

washing, scouring, and like treatment of (Whitehead and Henshilwood), (P.), B., 649.

machine for phosphating and washing of (RATIGNIER), (P.),

drying apparatus for (BROUGHTON and HENSHILWOOD), (P.), B., 599.

drying of, in open widths (BARCLAY and MATHER & PLATT), (P.), B., 215.

drying and calendering machine for (MILNE), (P.), B., 839. treatment of (British Celanese and Ellis), (P.), B., 247. ageing apparatus for (Wood), (P.), B., 139.

finishing of (BRITISH CELANESE, DICKIE, and HALKYARD), (P.), B., 747; (Chatham and Celanese Corp. of America), (P.) B., 872.

Fabrics, mothproofing of (Jackson and Wassell), B., 870. solutions for lacquering, coating, and doping of (Eighengrün), (P.), B., 305.

impregnation of, with rubber (NUNN), (P.), B., 52. decoration of, by action of light (MICHELS), (P.), B., 861.

ornamentation of (British Bead Printers, Vredenberg, and HEYNERT), (P.), B., 872.

pattern effects on (TOOTAL BROADHURST LEE Co. and FOULDS), (P.), B., 214.

cement for (AMEN and RANDOLPH), (P.), B., 839*.

artificial silk, treatment of (Parker, Kershaw, Barrett, and Bleachers' Assoc.), (P.), B., 747.

ornamentation of (Calico Printers' Assoc. and Whinfield), (P.), B., 776.

regenerated cellulose, manufacture of (BENNETT and CONSOLID-ATED TEXTILE CORP.), (P.), B., 776.

coloured, reflecting power of (CUNLIFFE and FARROW), B., 871. coloured and lustrous, manufacture of (N.V. NEDERLANDSCHE KUNSTZIJDEFABR.), (P.), B., 650.

dyed, effect of ultra-violet radiation on fading of (Hill), B., 839.

lustrous, manufacture of (Wolf and Kuhn), (P.), B., 71, 165. ornamental, washable and fadeless (Levy-Diem), (P.), B., 184. patterned woven, production of (HEBERLEIN & Co.), (P.), B.,

stiff, to stand washing, production of (AKT.-GES. CILANDER), (P.), B., 406.

union, dyeing of. See under Dyeing.

woollen and worsted, fastness to light of dyes on (BARKER and HIRST; HEDGES; BARKER, HIRST, and LAMBERT), B., 811; (HILL; GRIFFITH and JENKINS), B., 839. See also Textiles.

Fæces, extraction of ether-soluble material from (FREEMAN and MILLER), A., 169.

human, excretion of zinc in (DRINKER, FEHNEL, and MARSH), A., 478.

determination of cellulose in (KOHMOTO and SAKAGUCHI), A., 169.

determination of urobilin in (GREPPI), A., 70.

Faraday's law and unit electrolytic conductivity (EPPLEY), A.,

Fast Green F.C.F., manufacture of (Johnson and Staub), B., 404. Fasting, human metabolism during (Lennox), A., 170.

Fat or Fats, extraction of (L. J. and A. Simon, and Simon Bros.), (P.), B., 49; (Eichengrün), (P.), B., 495.

plant for (Simon and Hinchley), B., 48 apparatus for, from fish (SHJLER), (P.), B., 946.

apparatus for distillation of solvents used in (SIMON and

Simon Bros.), (P.), B., 946. manufacture of solutions of (I. G. FARBENIND. and CHEM. FABR. VORM. WELLER TER MEER), (P.), B., 339.

refining of (QUICK), (P.), B., 83; (WECKER), (P.), B., 883. purification and dehydration of (APPARATEBAU), (P.), B., 182. purity of, setting point or titre as indication of (DITTMER), B., 882.

deodorisation of (Robertson), (P.), B., 258. recovery of (Powling), (P.), B., 495.

with volatile solvents (MARX), (P.), B., 530. from fish meal, guano, etc. (Bradshaw), (P.), B., 530. hardening of (KAUFMANN and HANSEN-SCHMIDT), B., 226.

utilisation of waste from (Butkovski), B., 530. spreading of, on water (GORTER and GRENDEL), A., 306.

autoxidation of (Holm, Greenbank, and Deysher), B., 145; (RECHBERG GES., BRAUN GES., and OESTERMANN), (P.), B.,

hydrolysis of (Richardson, Conley, and Procter & Gamble Co.), (P.), B., 585.

in heterogeneous systems (LASCARAY), A., 1150.

by alkalis (McBain, Howes, and Thorburn), B., 145. splitting of (Allgem. Ges. Chem. Ind.), (P.), B., 258; (Keut-

GEN), B., 494; (I. G. FARBENIND, and FARBW. VORM. MEISTER, LUCIUS, & BRUNING), (P.), B., 660. recovery of agent used in (Petrov), (P.), B., 755.

reactivity of chloramine with (MARGOSCHES and FRISCHER), B., 727.

changes in characteristic indices of, during production of rancidity (Täufel and Cerezo), B., 915. nutritive value of (TAKAHASHI), A., 898.

formation of, from carbohydrates in the organism (Wesson; TERROINE and BONNET), A., 797.

Fat or Fats, influence of diet on reserve of (Belin), A., 274. relation of amino-acids and bile acids in intestinal digestion of (KARASAWA), A., 899. metabolism of. See under Metabolism.

in milk. See under Milk.

animal, extraction of (Allbright-Nell Co. and Laabs), (P.), B., 495*.

animal and vegetable, refining of (HERRYDORF), (P.), B., 258; (FORAY), (P.), B., 563.

crude, treatment of (METALLBANK & METALLURGISCHE GES.), (P.), B., 821.

edible (DUBIN and METZ LABORATORIES), (P.), B., 530.

production of (GRINDROD and CARNATION MILK PRODUCTS Co.), (P.), B., 92.

machine for manufacture of (Someffler), (P.), B., 530. solidification point of (MEYER), B., 226.

bromine-iodine values of (VAUBEL), B., 455.

saponification value of (GROSSFELD and WISSEMANN), B., 608.

hard, melting of (JIROTKA), (P.), B., 118. hardened, detection of (WITTKA), B., 944.

in tallow (Gerritzen and Kauffmann), B., 944.

irradiated, growth-promoting effect of (GOLDBLATT and MORITZ), A., 282.

marine vitamin-bearing, saponification of (Owe), (P.), B., 339. plastic, preparation of (ERSLEV), (P.), B., 531.

unsaturated, addition of iodine to (VAN DER STEUR), B., 494, 562.

determination of acetyl value of (Croner), B., 850.

bromine-iodine values of (VAUBEL), B., 883.

rapid stain for (Proescher), A., 586.

sampling and analysis of (AMER. CHEM. SOCIETY COMMITTEE), B., 117.

analysis of, with ultra-violet light (VAN RAALTE), B., 117. trichloroethylene as solvent in determination of (GROSSFELD), B., 754.

utility and action of solvents in determination of, in leather (LAUFFMANN), B., 949.

Fatty substances, removal of fatty acids from (Soc. Anon. ETABL. Rocca, Tassy & de Roux), (P.), B., 258. acetylenation of (Bourgoin), (P.), B., 258*.

Faught test for acctone (Schaeffer), A., 134.

Faulkenbergia doublettii, free iodine in (Chemin and Legendre),

Feathers, cholesterol content of (Eckstein), A., 691.

Feeding-stuffs, preparation of, from pineapple residues (Corbett), (P.), B., 171.

production of (MINER, STEERUP, and QUARER OATS Co.), (P.), B., 732.

value of, for milk production and for fattening stock (HANSSON; FINGERLING), B., 202.

for cattle, from fish (Bv), (P.), B., 171. green, preservation of (MESSMER and FLUBACHER-BRODBECK),

(P.), B., 27. sterilisation of (Brahm, Andresen, and Prillwitz), B., 426.

live-stock, preparation of (U.S. FARM FEED CORP.), (P.), B., 954.Felspar, particle-size distribution of (SCHRAMM and SCRIPTURE),

B., 678.

action of acids and alkalis on (SCRIPTURE), B., 441. free quartz in (Malinovszky), B., 220.

Felt, manufacture of (C. and E. Pichard), (P.), B., 329*. hair, production of (MARIAN; I. G. FARBENIND.), B., 825.

Feminin, a hormone of human placenta (GLIMM and WADEHN), A., 78.

cycloFenchene (NAMETKIN and BRIUSOVA), A., 249. Fenchene series (SHORT), A., 670.

apoFenchocamphoric acid, synthesis of (Short), A., 670.

Feneholethylamide (v. Braun, Jostes, and Heymons), A., 232. Fencholethylimide chloride (v. Braun, Jostes, and Heymons),

A., 232. Fencholphenylimide chloride (v. Braun, Jostes, and Munch),

A., 548.

Fenchylamine, cyano-, and its hydrochloride and acetyl derivative (Housen and Pfankuch), A., 364.

Fennel seed oil (IMPERIAL INSTITUTE), B., 618.

Fenugreek seeds, composition of, and their admixture with wheat for flour-milling (FLEURENT), B., 712.

Fermentation, control of (HARMAN and OLIVER), B., 24. tube for (Nond and White), A., 993.

Fermentation, action of carbon monoxide and nitric oxide on (WARBURG), A., 1221.

addition of per-compounds in (VAN LOON), (P.), B., 589. phosphorylation and oxido-reduction in (Nilsson and Lör-GREN), A., 378.

importance of surface of yeast in (RANKEN), B., 200. alcoholic, equation of (HARDEN and HENLEY), A., 1113. stopping of (Boulard), (P.), B., 793.

influence of hydrogen-ion concentration on (Fodor), A., 20; (Hägglund and Rosenqvist), A., 279; (Hägglund and RINGBOM), A., 902.

co-enzyme of (KLUYVER and STRUYK), A., 1221.

formation of pyruvic acid in (RIMINI), A., 279; (TRAETTA-Mosca), A., 379.

action of thyroxine on (ABDERHALDEN), A., 1113.

by living yeast, influence of fatty acids and hydroxy-acids and their salts on (KATAGIRI), A., 700.

cell-free, non-existence of (Kostytschev, Medvedev, and KARDO-SYSOJEVA), A., 902.

lactic (Virtanen, Wichmann, and Lindström), A., 700. lambic (van Laer), B., 952.

mixed acid (DE GRAAF), A., 379.

selective (Fernbach, Schoen, and Mori), A., 484.

See also Yeast. Ferrase (Bertrand), A., 174.

Ferriarsenates (Rosenheim and Thon), A., 1156.

Ferric salts. See under Iron.

Ferricyanides, absorption spectra of aqueous solutions of (Cambi and Szegö), A., 809.

conversion of into aquopentacyano-compounds (IIMORI), A., 1157.

Ferrimolybdite from Calabria (CAROBBI), A., 1050.

Ferrocerium, protection of, from corrosion (JOSEPH), (P.), B.,

Ferrochromium (KELLY), (P.), B., 194.

production of carbon-free (Crofts), B., 487.

decarbonisation of (FRIDERICH, RODENHAUSER, and SIEMENS & Halske), (P.), B., 81*; (Penniman and Shackelford), (P.), B., 256*

Ferrocyanides, absorption spectra of aqueous solutions of (Cambi and Szegő), A., 809.

conversion of, into aquopentacyano-compounds (IIMORI), A., 1157.

determination of, volumetrically, with calcium salts (GASPAR Y ARNAL), A., 846.

determination of, with lead salts (Burstein), A., 847.

Ferromagnetism, intrinsic fields in (DORFMAN), A., 288. Ferromanganese, history and production of (HADFIELD), B., 486. Ferronickel, reversible, internal friction of (CHEVENARD), B., 279. Ferrophosphorus, manufacture of (RAWN), (P.), B., 169.

determination of phosphorus and silicon in (POND), B., 488. Ferrosilicon, efficiency of electric furnace production of (SCRLUM-

BERGER), B., 217. recovery of metals from (Goldschmidt Akt.-Ges.), (P.), B., 256. for radio-detectors (THUAUD), (P.), B., 195.

determination of silicon in (DOUGHERTY), B., 192; (DEUTSCH),

B., 703; (v. Schwarz), B., 910. Ferrosilicon alloys, improving the electrical properties of (Dön-

NER), (P.), B., 912. Ferrotungsten, manufacture of (SCHROEDER and METAL & THER-

MIT CORP.), (P.), B., 114. determination of tungsten in (KOCH), B., 143; (MOSER and

SCHMIDT), B., 656. Ferrous salts. See under Iron.

Ferroxyl indicator for corrosion investigations (Evans), B., 487. Fertilisers (Elektrizitätswerk Lonza and Lüscher), (P.), B., 311; (ASAHI GLASS CO.), (P.), B., 422; (CERASOLI), (P.), B., 536; (SHUTT), B., 587; (ZUCKERFABR. & RAFFINERIE AARBERG and RÖLZ),)P.), B., 663.

manufacture of (Pease and Tyrer), (P.), B., 122*; (Claude and L'Air Liquide), (P.), B., 344; (I. G. Farbenind.), (P.),

production of (STILLWELL), (P.), B., 454.

from lignite ash (MASCHINENBAU-ANSTALT HUMBOLDT), (P.), B., 423.

from molasses (Dickerson and Industrial Waste Products Corp.), (P.), B., 611. culture mixture for (BAUMGARTEN-CRUSIUS), (P.), B., 454.

containing phosphoric acid and nitrogen (LILJENROTH), (P.), B., 826.

Fertilisers, composition for (FREISE and AMERICAN CYANAMID Co.), (P.), B., 23.

pot experiments with various (Blanck, Giesecke, and Scher-FER), B., 307.

effect of, on germination of seeds (MAXTON), B., 498.

action of, on soil reaction and crop yields (LEMMERMANN, FRESENIUS, and GERDUM), B., 611.

materials serving as insecticides and (LANGE), (P.), B., 536. manganese deficiency in (SCHREINER and DAWSON), B., 343. treatment of phosphatic materials for (HILL and BLAYDON

MANURE & ALKALI CO.; BARSKY, FREISE, and AMERICAN CYANAMID Co.), (P.), B., 199.

utilisation of phosphoric acid in (STROBEL and SCHARRER), B., 121.

mixed, determination of potash in (HAIGII), B., 637. nitrogenous (Buchanan, Griffith, and American Cyanamid

Co.), (P.), B., 199. manufacture of (SIEMENS & HALSKE), (P.), B., 263; (BRES-LAUER and COMP. L'AZOTE ET DES FERTILISANTS; RICHARDS, HUTCHINSON, and ADCO, LTD.), (P.), B., 263*.

non-caking (I. G. FARBENIND.), (P.), B., 663.

phosphate, manufacture of (LARISON and ANACONDA COPPER Mining Co.), (P.), B., 56; (ADELANTADO), (P.), B., 151; (Wedge and Thomas & Sons Co.), (P.), B., 423; RHENANIA-KUNHEIM VER. CHEM. FABR. and RUSBERG), (P.), B., 792.

action of (Wolte and Leonhards; Popp and Contzen), B., 566.

manurial experiments with (Niklas, Strobel, and Scharrer), B., 88; (Nolte and Leonhards), B., 262.

acid phosphate, ratio of sulphur trioxide to phosphoric anhydride in (Thomas and Howes), B., 408.

colloidal phosphate, manufacture of (DE HAEN), (P.), B., 88. water-soluble phosphatic (PRÉPARATION INDUSTRIELLE DES COMBUSTIBLES and HOFFMANN), (P.), B., 663, 856*.

containing phosphates and sulphurs (Bodrero), (P.), B., 171. physiologically acid, effects of, on acidity of soils (KAPPEN and Bergeder), B., 55.

potash, influence of, on crops and soils (NIKLAS, STROBEL, and SCHARRER), B., 394.

action of, containing magnesium (HASELHOFF), B., 394. powdery, preparation of, from activated sludge (HAUPT), B., 30. determination of ammonia in (Demolon), B., 792.

determination of nitrogen in (MOORE and WHITE), B., 535. determination of mineral nitrogen in (Jones), B., 262.

determination of phosphoric acid in, colorimetrically (Bordeianu), B., 422.

determination of phosphorus pentoxide in, volumetrically (CAMERON and Dow), B., 919. See also Manures.

Fertiliser composts, biological activity in (Englehorn), B., 374. p-Feruloylacetophenone, and its acetyl derivative (FINGER and ·Sснотт), А., 668.

Fevers, constituents of blood in (AKIYA), A., 789. Fibres, production of, from plants (FENGE and BROWNE), (P.),

B., 103.

for spinning (OBERRHEINISCHE HANDELS GES. and UBBE-LOHDE), (P.), B., 214; (UBBELOHDE), (P.), B., 519*. batting of (WESCOTT and RUBBER LATEX RES. CORP.), (P.), B., 905*.

coating_of, with cellulose esters (GIRARD and ROUMAZEILLES), (P.), B., 579.

weighting of (BERG and IMHOFF), (P.), B., 248*.

adsorption of solids by, from aqueous solutions (ILJINSKI, BALANDIN, GAVERDOVSKAJA, and TUROVA-POLLAK), A., 106. production of half-stuff from (I. G. FARBENIND.), (P.), B., 746. animal, treatment of (BERGMANN, IMMENDÖRFER, and LÖWE), (P.), B., 247.

reserving of (I. G. FARBENIND. and FARBW. VORM. MEISTER, Lucius, & Brüning), (P.), B., 628. fulling of (I. G. Farbenind.), (P.), B., 599.

protection of, during treatment with alkalis (I. G. FARBENIND.), (P.), B., 387; (BERGMANN), (P.), B., 406.

increasing the affinity of, for dyes (Chemical Works, for-MERLY SANDOZ), (P.), B., 475.

artificial, production of, from viscose (Soie D'Aubenton; MENDEL and NEIDICH), (P.), B., 184; (JENTGEN), (P.), B.,

artificial and vegetable, chemical variation of (Heberlein &-Co.), (P.), B., 746, 811.

Fibres, crude, treatment of (RICHTER and BROWN Co.), (P.), B., 774. paper-making, microscopical structure of, in relationship to their manufacturing properties (STRACHAN), B., 934. parchmentised or vulcanised, manufacture of (ARNOT), (P.), textile, manufacture of, for obtaining effects of colour and lustre (N.V. Nederlandsche Kunstzijdefabr.), (P.), B., machines for wet treatment of (FRÜH), (P.), B., 248. apparatus for drying (HAAS), (P.), B., 248. cleaning of (HILTNER), (P.), B., 472. oiling of (SMITH and SIEVER), (P.), B., 904. fluid treatment of, in skein form (BRANDWOOD), (P.), B., 600. apparatus for conditioning of (Borne Scrymser Co.), (P.), В., 839. continuously fed, spinning device for (Soc. Fabr. Soie "Riodiaseta"), (P.), B., 839. hollow, preparation of, from viscose (N.V. NEDERLANDSCHE KUNSTZIJDEFABR.), (P.), B., 519. artificial, manufacture of (ROUSSET), (P.), B., 361. vegetable, mechanical cleaning of (KRUPP GRUSONWERK), (P.), strengthening and crinkling of (DUBAC), (P.), B., 247. chemical variation of (HEBERLEIN & Co.), (P.), B., 103, 475. cooking of (Wells), (P.), B., 438. treatment of, with alkalis or with oxidising or reducing agents (Bergmann, Immendörfer, and Löwe), (P.), B., 965. treatment of, with chlorine (Wenzl), B., 69, 292, 598; (Waentic), B., 292, 598. treatment of green or dry stalks of (Soc. Civile des Proc. Masse), (P.), B., 839. removal of dressing from (I. G. FARBENIND.), (P.), B., 579. production of combined shades of azo- and vat-dyes on (I. G. FARBENIND.), (P.), B., 874*. vulcanised, production of a material similar to (ZARFEL), (P.), B., 164. Fibre board, manufacture of (HILTON and KEMPER-THOMAS Co.), (P.), B., 406. Fibre products, manufacture of composition for fire-proofing of (Felix), (P.), B., 904. Fibrins, chloro- (VANDEVELDE), A., 474. Fibrinogen, formation of (FALUDI), A., 690. physical chemistry of (Wöhlisch and Schloss), A., 985. non-coagulable, determination of, in plasma of dogs (Zunz), A., 584. Fibroin, colloidal solutions of (v. Weimarn), B., 136. silk-, isoelectric point of (DENHAM and BRASH), B., 933. Fibrous materials, drying apparatus for (BARROW, HEPBURN & GALE and HAWKYARD), (P.), B., 329. desizing of (I. G. FARBENIND.), (P.), B., 745. increasing the wetting and cleaning power of aqueous liquids used for treatment of (I. G. FARBENIND.), (P.), B., 874. medium for protection of, during treatment (HABERKORN), (P.), B., 776. action of atmospheric influences on (SOMMER), B., 903. manufacture of aqueous solutions or emulsions for treatment of (I. G. FARBENIND.), (P.), B., 965. mildew proofing of (FAIRBROTHER, RENSHAW, and BRITISH DYESTUFFS CORP.), (P.), B., 248*. for filtration of gases (DEUTSCHE GASGLÜHLICHT-AUER-GES. and ENGELHARDT), (P.), B., 472. manufacture of pulp from (FISH), (P.), B., 839. organic, fireproofing of (Stelling), (P.), B., 965. vegetable, treatment of, with mercerising liquids (GMINDER), (P.), B., 699. Filaments, artificial, manufacture of (COURTAULDS, LTD. and Lewis), (P.), B., 934. manufacture of, from viscose (HAWLIK), (P.), B., 103. Films, kinetics of formation of, on surfaces (Sen), A., 510. adsorbed vapour, thickness of, on glass (Frazier, Patrick, and SMITH), A., 722. flexible (DREYFUS, MILES, and AMERICAN CELLULOSE & CHEM-ICAL MANUF. Co.), (P.), B., 228 photographic. See Photographic films. solid unimolecular, rigidity of (MOUQUIN and RIDEAL), A., 507. Filters (C. E. and W. Fox), (P.), B., 287; (ROBERTSON), (P.), B., 465; (HATCHER), (P.), B., 639; (SWEETLAND), (P.), B.,

801; (VALLEZ), (P.), B., 863.

Filters, influence of orientation of molecules on clogging of (Génin), nozzles for (JEWELL EXPORT FILTER Co. and WILLIAMSON), (P.), B., 208. for air and gases (Hall, Kay, and Hall & Kay, Ltd.), (P.), B., 96; (v. Linden, Meldau, and Deuts. Luftfilter Baudes.), (P.), B., 768. for fluids (Svenska Ackumulator Aktiebolaget Jungner and LUNDBORG), (P.), B., 896. for pulp (Oliver Continuous Filter Co.), (P.), B., 465. for sewage (HANDLEY), (P.), B., 352. asbestos, for blast-furnace gases (DEUTSCHE MASCHINENFABR.). (P.), B., 320. bag, arrangement of outflow pipes for (SCHEIDT), (P.), B., 863. continuous pressure (McCaskell), (P.), B., 65. dual (Zwicky), (P.), B., 176. edge (AKTIEBOLAGET SEPARATOR), (P.), B., 352. fritted glass (Schott & Gen, Herschkowitsch, and Praus-NITZ), (P.), B., 352. metallic, for air cleaners (GARNER), (P.), B., 160. permutit, regeneration of (Hofer), B., 350. porcelain suction (STAATLICHE PORZELLAN-MANUF.), (P.), B., stream-line (Forsberg and De Laval Separator Co.), (P.), B., 768*. vacuum rotary, cake-washing means for (Mauss), (P.), B., 928. velocity, for electrons and ions (SMYTHE), A., 85. Filter-paper, capillary action of (JENDRASSIK and CZIKE), A., 825. Filter-press (CAPRA; VERNAY), (P.), B., 928. soft rubber plates and frames for (FRITZ and CLARK), B., 863. Filter stand, rotating (BREMER), A., 642. Filter stones, porous artificial, manufacture of (SCHUMACHER'SCHE FABR.), (P.), B., 544. Filtering-rods, use of, in micro-analysis (HELLER and MEYER), A., 637. Filtration (Blumenfeld), (P.), B., 556*. mechanism of (Jewett and Montonna), B., 239. manufacture of an aid to (Thatcher and Celite Co.), (P.), B., 768. device for (NAUGLE), (P.), B., 64. separation of liquids by (Hele-Shaw and Pickard), (P.), B., media used in separation of mixed liquids, cleaning of (ALEX-ANDER), (P.), B., 719. continuous (MANNING), (P.), B., 33. by the dam-filter (BESEMFELDER), B., 622. Filtration apparatus (PERRETT and SIMPSON), (P.), B., 1; (KEENE), (P.), B., 176; (Powley & Sons and Powley), (P.), B., 320; (Comp. Prod. Chim. Électrométall. Alais, Frages & CAMARGUE; ALLIOTT, HATFIELD, and ACHILLE SERRE; SPALDING and ARCHER), (P.), B., 511; (Weber and Dunlar), A., 537; (PUMPHREY), (P.), B., 591; (VERNAY; CHRISTENSEN), (P.), B., 801; (CHATFIELD), (P.), B., 831; (FURNESS and CELLOCILK Co.), (P.), B., 896. for air for internal combustion engines (Mulot), (P.), B., 929. centrifugal (EMPSON), (P.), B., 640. continuous (MOUNT), (P.), B., 242*. Fire, prevention and extinction of (Eichengeun), (P.), B., 104*. extinction of, by foam (GRAAFF), (P.), B., 690. Firearms, alloy for (FAHRENWALD), (P.), B., 257*. Firebricks, tunnel kilns for burning of (HIND), B., 44. clay, specifications for (AMERICAN REFRACTORIES INSTITUTE), B., 300. Fire buckets, papier maché, prevention of decay of (THAYSEN and Bunker), B., 810. Fireclay, U.S. specifications for (U.S. Bur. Standards), B., 365. Stourbridge, low-temperature burning of (Moore), B., 44. Fireclay bricks, U.S. specifications for (U.S. Bur. Standards), B., 365. Firedamp. See Methane. Fire-extinguishers, compound for ("Poleo" Feuerlösch Apparate Ges.), (P.), B., 897. foam for (Excelsior Feuerlöschgeräte and Minimax A.-G.), (P.), B., 353. generation of pressure in (MINIMAX, GES.), (P.), B., 176. liquid (Soc. Bouillon Frères), (P.), B., 2; (Кивієкаснку and SCHULTE), (P.), B., 545. Fireproofing, composition for (Petereit), (P.), B., 190. of fabrics (BURKE and DU PONT VISCOLOID Co.), (P.), B., 775.

344 Fire-resistant construction, materials for (STRADLING and BRADY), Fisetin as the cause of fluorescein reaction with quebracho extract (GERNGROSS and HÜBNER), B., 853. Fisetol, preparation of (KARRER and BIEDERMANN), A., 770. Fish, preparation of, for canning (BEARD), (P.), B., 123. preparation of foods from (BIRDSEYE), (P.), B., 457. apparatus for extraction of oils and fats from (SHILER), (P.), B., 946. effects of heat on free and combined cystine in flesh of (ALMY), B., 922. formaldehyde in (DILL and CLARK), B., 375. elasmobranch, unsaponifiable matter from oils of (HEILBRON, HILDITCH, and KAMM; HARVEY, HEILBRON, and KAMM), A., 130. frozen, biochemistry of (ARATSURA), A., 900. marine and fresh-water, chemistry and biology of surviving muscles of (EMBDEN, DEUTICKE, LEHNARTZ, and PERGER; MARTINO), A., 274. detection of formaldehyde in (TANKARD and BAGNALL), B., 25. Fish-liver oils, lerginisation of (ORMANDY, CRAVEN, HEILBRON, and CHANNON), B., 692. Fish meal, production of (SCHLOTTERHOSE), (P.), B., 615. detection of mammal bones in (BARTSCHAT), B., 614. Fish oils, unsaturated acids of (McGregor and Beal), B., 145. utilisation of, in motors (Lumet and Marcelet), B., 736. Fish oil powder, production of (MILLER AND SILMO CHEMICAL Co.), (P.), B., 377. Fishing nets, paints for (Tomioka), (P.), B., 259. Fixing of basic dyes on acetate silk (I. G. FARBENIND.), (P.), B., Flame or Flames, production of selective emission by (KREIDER), A., 90. conductivity and ionisation in (Bennett), A., 188. potential of (Sisojev), A., 523. law of speed of (Bone), A., 26, 630; (White), A., 115, 524; (PAYMAN and WHEELER), A., 211, 524, 630. measurement of speed of (ELLIS), B., 354. speed of, in gaseous explosions (Bone, Fraser, and Winter), A., 424. movement of, in closed vessels (ELLIS and WHEELER), A., 211, 317. uniform movement in propagation of (COWARD and JONES), A., 319. residual and extinctive atmospheres of (RHEAD), B., 130. propagation of, in mixtures of hydrogen and air (Georgeson and HARTWELL), A., 211. in mixtures of methane and air (CHAPMAN and WHEELER), A., 211. from engine-fuel, ultra-violet spectra of (CLARK and HENNE), A., 810. flat luminous (CHAMBERLIN and THRUN), A., 633. luminous, radiation of heat from (HASLAM and BOYER), B., 179. of organic substances, ionisation of (Bennett), A., 1001. Flavanhydrone, 4'-hydroxy- (IRVINE and ROBINSON), A., 1084. Flavanone, 7-hydroxy-, and its acetyl derivative (Ellison), A., Flavanthrone, recovery of antimony in manufacture of (DU PONT DE NEMOURS & Co.), (P.), B., 597. Flavanthrone dyes, red (WYLAM, HARRIS, THOMAS, and SCOTTISH DYES), (P.), B., 40. Flavone, 6:7:4'-trihydroxy-, and its derivatives (BARGELLINI and GRIPPA), A., 1197. Flavones, synthesis of (Simonis and Danischewski), A., 154; (HATTORI), A., 883. Flavone dyes, absorption spectra of (TASAKI), A., 918. Flavopurpurin-anthranol, and its acetyl derivatives (Cross and PERKIN), A., 771. Flavours, synthetic production of (BARYSCHEVA), A., 481. Flavouring materials (Woo), (P.), B., 26, 795*. Flavylium salts, mono- and di-hydroxy- (IRVINE and ROBINSON; ROBERTSON and ROBINSON), A., 1084. Flax, retting of (I. G. FARBENIND.), (P.), B., 184. culture of bacilli of (OMELIANSKI and KONONOV), B., 57. retting, fermentation of (OMELIANSKI and KONONOVA), B., 711. fibres, manufacture of (FABRICORD, INC.), (P.), B., 474.; (v. EHRENTHAL and Scholz), (P.), B., 552 constituents of cell-wall of (CASHMORE), B., 405. straw, pulping of (Bray and Peterson; Schäfer, Bray, and

Peterson), B., 327.

Flax Iolium. Sco Lolium remotum. Flies, effect of poisons on larvæ of (Feist), B., 206. Flint, action of acids and alkalis on (SCRIPTURE), B., 441. particle-size distribution of (SCHRAMM and SCRIPTURE), B., 678. Florentium. See Illinium. Flotation, de-watering slimes from (KRUPP GRUSONWERK), (P.), of minerals, experiments on (McLaohlan), B., 560. vacuum, of materials (ELMORE), (P.), B., 800.
Flotation apparatus (MacIntosh and Gen. Engineering Co.), (P.), B., 115; (OWEN and DALTON), (P.), B., 449. Flour, studies on (Sharp; Sharp and Schneener; Whitcomb and Sharp), B., 201; (Sharp and Herrington), B., 761. treatment of (van Loon), (P.), B., 265, 732*; (N.V. Internat. Oxygenum Mij. "Novadel"), (P.), B., 668. washing of gluten from (KENT-JONES and HERD), B., 671. milling of (Gelissen and Novadel Process Corp.), (P.), B., 376. value of experimental milling tests for (HERMAN), B., 761. measurement of hydrogen-ion concentration in aqueous suspensions of (Denham and Blair), B., 202. relation of hydrogen-ion concentration of dough to baking properties of (GREWE and BAILEY), B., 761. viscosity of suspensions of (Johnson), B., 424; (Denham, BLAIR, and WATTS), B., 638. influence of concentration on (BLAIR, WATTS, and DENHAM), B., 397. effect of calcium phosphate on (EARLENBAUGH), B., 396. plasticity of suspensions of, in water (Sharp), B., 201. acidity of (Thompson), B., 589. iodine adsorption and sedimentation of various kinds of (Trofimuk), B., 90. effect of yeast fermentation on proteins of (Sharp and Schreiner), B., 201. relation of protein content of, to loaf volume (BAILEY and Sherwood), B., 396. improver for (Sullivan), (P.), B., 569. barley, phosphorus compounds of (MINKOVSKA), A., 1227. New Zealand, chemistry of (Foster), B., 264, 396. oat, phosphorus compounds of (LINDENBAUM), A., 1228. potato. See Potato flour. self-rising, leavening agents for (Logue and Ranker), B., 202. wheat. See Wheat flour. numerical expression for colour of (Kent-Jones and Herd), B., 762. gasoline colour value of (COLEMAN and CHRISTIE), B., 396. analysis of (Smirich), B., 313. detection of naphthalene in (EPSTEIN and HARRIS), B., 395. oven for determination of moisture in (COLEMAN and DIXON), B., 396. determination of amino-acids and proteolytic activity of (DENHAM and BLAIR), B., 397. determination of calcium, iron, magnesium, phosphorus, protein, and ash in (Harding and Dysterheff), B., 397. determination of fat content of (Herd), B., 889. determination of quality of gluten in (COLEMAN, DIXON, and Fellows), B., 501. Flowmeters for gases (RIESENFELD), B., 799. ball-and-tube (AWBERY and GRIFFITHS), B., 463, 671. Flue-dust, gallium in (RAMAGE), B., 447. blast-furnace, recovery of iron oxide from (MINOT), (P.), B., 818. zineiferous, treatment of (KRUPP GRUSONWERK), (P.), B., 560. Fluids, instrument for measurement of turbidity and colour of (EXTON), (P.), B., 898. See also Liquids. Fluoborates. See under Fluorine. Fluorene, action of aqua regia on (Blumenstock-Halward), A., 866. compound of, with trinitro-m-cresol (Efremov and Tichomi-ROVA), A., 1182. Fluorene, 2-bromo-7-amino- and -7-nitro-, and 9-chloro-2-bromo-(Courtor and Vignati), A., 234. 2-bromo-7-nitro- and 2-chloro- (COURTOT and VIGNATI), A., 348. 9-bromo-2-nitro- and -2-iodo- (Korczyński, Karlowska, and Kierzek), A., 348.

2-chloro-7-amino-, and 2-chloro-7-nitro- (Courtor and Vig-

NATI), A., 654.

2-iodo- (Chanussot), A., 962.

Flax yarns, extensibility of (Matthew), B., 933.

Fluorene, 2-nitro-, reduction of (CISLAK, EASTMAN, and SENIOR), A., 1061.

condensation of, with aromatic aldehydes (LOEVENICH and Loeser), A., 970.

Fluorenes, synthesis of derivatives of (VANSCHEIDT), A., 234.

Fluorene series (Courtot and Vignati), A., 234.

Fluorenol, 2-bromo-, and 2-bromo-7-amino- (Courtor and Vionati), A., 234.

2-chloro-, 2:7-dichloro-, and 2-chloro-7-amino- (Courtor and Vignati), A., 654.

Fluorenone, 2-bromo-7-amino- (Courtot and Vignati), A., 234. 2-chloro-7-amino-, and 2-ohloro-7-nitro- (Courtor and Vic-NATI), A., 654.

2-iodo-, and its derivatives (Chanussot), A., 962.

and its phenylhydrazone (Korczyński, Karlowska, and KIERZEK), A., 348.

2-nitro-, imino-chloride, and oxime of (Moore and Huntress), A., 1201.

7-nitro-4-amino- and its acetyl derivative (Moore and Hunt-RESS), A., 665.

Fluorenone-4-carboxylic acid, and 5- and 7-nitro-, and their derivatives (Moore and Huntress), A., 665.

Fluorenone-4-carboxylic acid, mono- and tri-nitro- (Bell and Robinson), A., 1069.

Fluorenopinacol (GOMBERG and BACHMANN), A., 246. Fluorenyl iodide (VANSCHEIDT), A., 235.

Fluorenyldi-a-naphthofluorenyl (VANSCHEIDT), A., 140.

(2-Fluorenyl)-2-methylfluoreniminazoles (CISLAK, EASTMAN, and SENIOR), A., 1061.

Fluorescein, fluorescence of (Kennard), A., 396.

time between excitation and emission for (Hoxton and BEAMS), A., 1007.

salts and derivatives of, and dibromo-, and its derivatives (ORNDORFF and HEMMER), A., 671.

sodium salt, absorption and fluorescence spectra of (Szczeniovski), A., 1007.

constitution of halogen derivatives of (Holmes and Scanlan), A., 773.

Fluorescein dyes as stains for bacteria (CONN and HOLMES), A., 281.

Fluorescence in the X-ray region (POSEJPAL), A., 91. yield of, at the K level (POSEJPAL), A., 712.

relation between phosphorescence and (VAVILOV and LEVSCHIN), A., 918.

transition of, into phosphorescence (GAVIOLA and PRINGSHEIM),

and molecular induction by resonance (Perrin), A., 609. duration of (GAVIOLA), A., 712.

action of anti-oxygens on (PRIVAULT), A., 609.

and concentration in solid solutions (MERRITT), A., 91.

of incandescent solids (Nichols), A., 91.

of dyes, influence of temperature and concentration on decay of GAVIOLA), A., 712.

extinction of, in solid and liquid solutions (Levschin), A., 711.

Fluorescent materials (SHEPPARD and EASTMAN KODAK Co.), (P.), B., 29.

Fluorescent solutions, polarisation of light from (Perrin), A., 187.

Fluorides. See under Fluorine. Fluorine, manufacture of (N.V. Philips' Gloeilampenfabr.), B., 107; (Lebeau), B., 297.

spectrum of (DINGLE), A., 1, 82; (DE BRUIN), A., 82, 490.

series spectrum of (Bowen), A., 285. ionisation potentials of (MILLIKAN and BOWEN), A., 913.

oxidation with (FIGHTER and WOLFMANN), A., 123; (FIGHTER and Bladergroen), A., 741.

activity of, in organic compounds (Tronov and Krucer), A., 957.

Fluorine oxide (LEBEAU and DAMIENS), A., 1044.

Hydrofluoric acid, pure, preparation of (Fredenhagen), A., 936.

conductivity of (Auméras), A., 733. ionisation potential of (Biswas), A., 497.

heat of evaporation of (DE Kolosovski), A., 506.

Hydrofluoric acids, complex, production of (MEYERHOFER), (P.), B., 748, 841.

Fluorides, manufacture of (I. G. FARBENIND.), (P.), B.,

recovery of (BETTS), (P.), B., II. equilibria of, with aluminium hydroxide (TRAVERS), A., 1141. Fluorine:---

Fluorides, complex, production of metallic compounds from (Mexerhorer), (P.), B., 299.

ammines of, and their reactivity (BILTZ and RAHLES), A., 1157. soluble, determination of (HAHN), A., 125.

Hydrofluoboric acid, organic salts of (WILKE-DÖRFURT and BALZ), A., 238.

Fluoborates (WILKE-DÖRFURT and BALZ), A., 120; (FUNK and BINDER), A., 219.

Fluosilicates, production of (Gehauf and Walker), (P.), 580; (MEYERHOFER), (P.), B., 601.
Fluorine electrodes. See under Electrodes.

Fluorine ions, lyotropic properties of (FREUNDLICH and ASCHEN-BRENNER), A., 202.

Fluorite (fluorspar), production of, in the electric furnace (STOCK-BARGER), B., 600. purification of (COMP. PROD. CHIM. & ELECTROMÉTALL. ALAIS.

Froges & Camarque), (P.), B., 481. effect of X-rays on thermoluminescence of (WICK), A., 397.

use of, in cement industry (Becker), B., 908.

analysis of (Brauer and Rutusatz), A., 846.

Fluoro-compounds, aromatic (BALZ and SCHIEMANN), A., 654. Fluorophosphorie acid. See under Phosphorus.

Fluorspar. See Fluorite.

Fluosilicates. See under Fluorine.

Fluxes, manufacture of, from blast-furnace slag (LUND), (P.), B., 682.

Fodder. See Feeding stuffs.

Fomes annosus, action of wood preservatives on growth of (CURTIN; SOWDER), B., 909; (CURTIN and BOGERT), B., 938. Foods, preparation of (Brown Co.), (P.), B., 265; (Birdseye and Gen. Seafoods Corp.), (P.), B., 858*.

manufacture of (Northwestern Yeast Co.), (P.), B., 203.

apparatus for drying (Doutilitt), (P.), В., 26. preservation of (Kirke), (P.), B., 265; (Barry and Gen. Seafoods Corp.), (P.), B., 314; (Sabalitschka), (P.), B., 457; (Vautin and Whiffen), (P.), B., 763.

in aluminium cans (Serger), B., 539. sterilisation and preservation of (KRISTEN), (P.), B., 314. fumigation of, with chloropicrin (HOYT and ELLENBERGER), B., 376.

acid- and base-forming elements in (CLARK), B., 668.

containing cellulose, digestibility of, by stomach bacteria (Brahm), A., 77.

colouring of (Drake-Law), B., 90; (Bost and Orange Crush Co.), (P.), B., 315; (Johnson and Staub), B., 404.

copper as industrial contaminant in (KING and ETZEL), B., 973.

crude fibre in (MAGERS), B., 890.

glass fragments in, packed in glass containers (HANCOCK),

microchemical investigations of iodine in (SETTIMJ), B., 958. volatile compounds in (König), B., 123; (König and Schrei-BER), B., 568.

bacteriology of (SAVAGE), B., 313.

specific dynamic action of (ABELIN and KOBORI), A., 276, 897. acid, comparison of methods for determination of acids in (NEHRING), B., 857.

albuminous, production of, from earbohydrates (Claassen), B., 712.

artificial and natural, distinction between (TILLMANS and KIESGEN), B., 456.

dog's, manufacture of (Molassine Co.), (P.), B., 236. infant's (NIELSEN and ABBOTT LABORATORIES), (P.), B., 123. invalid, manufacture of, from milk (HOEFELMAYR), (P.), B.,

proprietary, vitamin-B in (Komm), B., 91.

smoked, detection of formaldehyde in (Callow), B., 615. sterilised, vitamin content of (REMY), B., 667.

detection of benzoic acid in (MONIER-WILLIAMS), B., 922. detection of prohibited vegetable and coal-tar colours in (Nicholls), B., 922.

detection of preservatives in (Chapman), B., 376.

detection of sulphites in (Parkes), B., 57.

determination of amino-acids in (TILLMANS and KIESGEN), B., 456.

determination of benzoic acid in (Monier-Williams), B., 502; (GROSSFELD), B., 794.

determination of chlorine, potassium, and sodium in (Husband and Godden), B., 397.

Foods, determination of milk fat in (LÜHRIG), B., 236. determination of nitrogen in, colorimetrically (Golub), B., 397.

determination of salt in (MACH and LEPPER), B., 265, 763. determination of total sulphur in (LEMATTE, BOINOT, and KEHANE), B., 890.

determination of volatile constituents of (König and Schrei-BER), B., 344.

Food compounds (CRAWFORD; BOLLMANN and FOSTER), (P.), B., 123.

Food products, manufacture of (CREGOR and WARD BAKING Co.; BALLS), (P.), B., 827; (PECK), (P.), B., 890.

protective treatment of (WILLISON and THERMOKEPT CORP.), (P.), B., 795.

gluten (Hoyt), (P.), B., 857. nitrogenous (Kahn and Soc. Franc. Prod. Alimentaires), (P.), B., 828*.

Foodstuffs. See Foods.

Forests, carbon dioxide nutrition in (Fehér), A., 385.

Formaldehyde (methanal; formalin), formation of, in fission of lignin (Freudenberg and Harder), A., 342.

from methane (MEDVEDEV), A., 1165. preparation of (TRÜMPLER), B., 156.

by oxidation of hydrocarbons (LEDBURY and BLAIR), B., 955. from methyl alcohol (Ghosh and Baksi), B., 426.

synthesis of, by photochemical action (Marshall), A., 216. manufacture of, from methylene chloride (Krause, Róka, and

HOLZVERKOHLUNGS IND.), (P.), B., 268. manufacture of solid polymerides of (I. G. FARBENIND.), (P.),

manufacture of concentrated solutions of (I. G. FARBENIND.), (P.), B., 428.

action of contact poisons in catalytic production of (SIEGL), B., 891.

distillation of solutions of (ZIMMERLI), B., 377.

polymerisation of (STAUDINGER, JOHNER, SIGNER, MIE, and HENGSTENBERG), A., 647.

Röntgen-ray structure of polymerides of (Hengstenberg), A., 1129.

polymerised, solutions of, in alcohols, and their use for production of resins (CHEM. FABR. HEYDEN and GEBAUER), (P.), B., 348.

concentration of dilute aqueous solutions of (MUELLER and ZIMMERLI), (P.), B., 891.

and its sodium salt, equilibrium of water and (ELÖD and TREM-MEL), A., 940.

oxidation of, by hydrogen peroxide (HATCHER and HOLDEN), A., 425.

condensations of (SCHMALFUSS), A., 648.

effect of dextrose on (KINGSBURY), A., 1172.

condensation of acetaldehyde with (STEPANOV and SCHTSCHU-KINA), A., 647.

condensation of primary aromatic amines with (Light), (P.), B., 822

condensation of carbamide and (Soc. Chem. Ind. in Basle), (P.), B., 228; (I. G. Farbenind.; Pollak), (P.), B., 452; (Rif-PER and POLLAK), (P.), B., 532*; (BARTHÉLEMY and Soc. IND. DES MAT. PLASTIQUES), (P.), B., 916.

condensation of carbamide and its derivatives with (Soc. CHEM. IND. IN BASLE), (P.), B., 496, 563, 756; (POLLAK), (P.), B., 756.

condensation products of polymerides of, with carbamide (STEPPES and TRAUN), (P.), B., 564.

conversion of insoluble products of carbamide and its derivatives with, into soluble form (Soc. CHEM. IND. in BASLE), (P.), B., 684.

condensation of, with phenol (Shono), A., 456.

liquid coating compositions from condensation products of

phenols and (Bakelite Corp.), (P.), B., 851.
resins from phenols and (Comp. Mines Vicoione, Noeux & Drocourt; Traun & Söhne), (P.), B., 197.

non-resinous products from phenol and (RIEBEOK'SCHE MONTANWERKE), (P.), B., 392.

action of, on sodium hydroxide (MESTRE), A., 960; (MALVEZIN), A., 1172.

detection of, in fish (TANKARD and BAGNALL), B., 25.

detection of, in wood smoke and smoked foods (CALLOW), B., 615. determination of (BISCKEI), A., 551.

Formamide, manufacture of aryl derivatives of (I. G. FARBENIND.), (P.), B., 458.

Formazylcarboxylic acid, and di-o-nitro-, urethane derivatives of (Whitelex and Yapp), A., 344.

Formic acid, manufacture of (ARSEM and COMMERCIAL SOLVENTS CORP.), (P.), B., 125.

photochemical decomposition of aqueous solutions of (ALL-MAND and REEVE), A., 29; (KAILAN), A., 39.

activity coefficient and ionic concentration of, in neutral salt solutions (HARNED), A., 206.

electrolytic oxidation of concentrated solutions of (MULLER), A., 738.

catalytic decomposition of (SENDERENS), A., 445.

anhydrous, action of, on d- α -pinene (Reisman), A., 249.

preparation of derivatives of (Koepp & Co. and Elöd), (P.), B., 669.

salts, kinetics of formation of (BIRSTEIN and LOBANOV), A.,

manufacture of (L'AIR LIQUIDE), (P.), B., 796.

action of silver acetate on (GUREVITSCH and POKROVSKAYA), A., 1167..

alkaline-earth salts, conversion of, into oxalates (Bredt and TROJAN POWDER Co.), (P.), B., 459. water-soluble basic aluminium salt, preparation of (Chem.

FABR. GRÜNAU, LANDSHOFF & MEYER and FRANKE), (P.), B., 459.

alkyl esters, manufacture of (I. G. FARBENIND.), (P.), B., 458. cellulose ester, manufacture of, and materials therefrom (FABR.

VAN CHEM. PRODUKTEN and TER HORST), (P.), B., 103. ethyl ester, addition of alkali alkoxides to (Adiokes), A., 228.

action of, on sodium ethoride (Soheibler), A., 338. and mono- and di-thio-, ethyl esters, sulphides of (Twiss),

A., 337. methyl ester, preparation of (MUGDAN, WIMMER, and Con-

SORTIUM FÜR ELEKTROCHEM. IND.), (P.), B., 859. reduction of (Bouvier, Blanc, and Soc. Chim. des Usines

DU RHÔNE), (P.), B., 157. pentaerythritol ester, decomposition of (VAN ROMBURGH),

A., 1166. detection of, in vinegar (KREUTZ and BUCHNER), B., 92.

determination of (OBERHAUSER and HENSINGER), A., 475. Formic acid, chloro-, esters, manufacture of (HAMMOND and U.S.

INDUSTRIAL ALCOHOL Co.), (P.), B., 378. Formylacetonanil, O-ehloroacetyl derivative (Benary), A., 1059.

Formylacetophenonanil, derivatives of (Benary), A., 1059. Formyldiscatole (Oddo and Mingola), A., 1088.

Formylmethylbiuret (Biltz and Bülow), A., 1091.

Freezing-points (TIMMERMANS), A., 417. of binary mixtures, eutectic depression of (Kordes), A., 1132.

of organic compounds (TIMMERMANS), A., 1131. of solutions (VISEUR), A., 312.

of concentrated solutions (Jones and Bury), A., 619.

low, solutions with (PYRENE Co. and PEDERSEN), (P.), B., 544. Friction of solids (MALLOCK), A., 823.

Friedel and Crafts' reaction, intermediate products in (OLIVIER), A., 49.

synthesis of flavones by (Simonis and Danischewski), A., 154.

with nitrobenzyl chlorides and benzene (OLIVIER and BERGER), A., 1177.

Fritzsch's reagent. See Anthraquinone, β -dinitro-. Fructoinvertase (Kuhn and Münch), A., 483. Fructosediphosphatase, human (Forrai), A., 1220.

Fruit, preparation of, for market (BARGER, HAWKINS, and BLATZ), (Ŷ.), B., 569.

electric potential in (Scurri and Cortese), A., 1224. dehydration of (MacPherran), (P.), B., 615.

oxidising systems of (CRUESS and FONG), B., 590. evolution of tannin in (Bottini), A., 1126.

preservation of (MoDill; Collins; McLaughlin), (P.), B., 569; (Hansen and Hansen Canning Machinery Corp.), (P.), B., 732.

production of cannery syrup for (COCHRAN and McCrosson), (P.), B., 89.

in sulphurous acid solutions (BARKER and GROVE), B., 26; (CRUESS and EL NOUTY), B., 890.

pickling of (BECKMAN and ROEDING), (P.), B., 376. gas storage of (KIDD, WEST, and KIDD), B., 425.

occurrence of arsenic and lead on, after spraying (LENDRICH and MAYER), B., 712.

and its products, presence of arsenic, lead, and copper in, as a result of spraying (LENDRIOH and MAYER), B., 954.

Fruit, effect of ethylene on composition and colour of (Chace and Сниксн), В., 890. removal of lead arsenate from (SEARS), (P.), B., 732. removal of sulphur compounds from (Rosenstein), (P.), B., 457. effect of small amounts of chemicals in increasing ripening of (DENNY), B., 762. dried, treatment of (Sun-Maid Raisin Growers of California), (P.), B., 123. determination of sulphur dioxide in (MAY), B., 502, 973; (MILLER), B., 615. Fruit conserves, containing apple, analysis of (MUTTELET), B., 795. Fruit juices, freezing apparatus for concentration of (HEYMAN), (P.), B., 923. concentrated, manufacture of (ZORN), (P.), B., 763. preservation of (MATZKA), (P.), B., 376, 827. Fruit spurs, composition of, in relation to buds (Potter and KRAYBILL), A., 1226. Fruit trees, physiology of (MANN), A., 283; (SWARBRICK), A., 797. chlorosis of (WALLACE and MANN), A., 176. manuring of (WALLACE), B., 55. Fuchsone, absorption spectrum of (ORNDORFF, GIBBS, MCNULTY, and Shapiro), A., 764. d-Fucose. See Rhodeose. Fuel or Fuels, manufacture of (KITCHEN), (P.), B., 162; (GREEN-STREET and AMERICAN COALINOIL CORP.), (P.), B., 435. from acid sludge (Kinkade and Baugh), (P.), B., 323. from coal and oil mixtures (Trent), (P.), B., 66. drying of (Berl), (P.), B., 466; (LIPINSKI), (P.), B., 865.
apparatus for (Kreisinger, Bell, Anderson, and Combustion Engineering Corp.), (P.), B., 133.
recovery of drying agent retained by (Berl), (P.), B., 466. carbonisation of (Internat. Combustion Engineering Corp. and Runge), (P.), B., 162. gasification of (Szikla and Rozinek), (P.), B., 180; (Jahns), (P.), B., 467. by oxygen and steam (CERASOLI), B., 624. rich gases from (Koulenveredlung Ges.), (P.), B., 210. low-temperature distillation of (Plassmann), (P.), B., 740. charging device for (Plassmann), (P.), B., 674. treatment of (Devillars), (P.), B., 866. briquetting of (Welton, Wadsworth, and Welton Engineering Co.), (P.), B., 901*. binding material for (NAGEL), (P.), B., 435. pulveriser for (SYRACUSE PULVERIZER CORP. and BRIGGS), (P.), B., 435. calorific value of (STEUER), B., 33, 161; (VONDRACER), B., 179. flash-point tests for (JENTZSOH), (P.), B., 274. determination of nitrogen in (LAMBRIS), B., 289, 321, 354. determination of volatile matter in (Dooremans and Kreulen), B., 929. Fuel or Fuels, agglomerated, manufacture of (LIAIS), (P.), B., 627*. artificial, manufacture of (MAGINNIS), (P.), B., 290. apparatus for (HAMP), (P.), B., 356. bituminous, gasification of (STRACHE), (P.), B., 100*. production of high-grade combustible gases from (LYMN), generation of carburetted water-gas from (MISCH), (P.), B., 867. carbonaceous, apparatus for drying and distillation of (Deваисне), (Р.), В., 547. carbonised, apparatus for manufacture of (Illinoworth and ILLINOWORTH CARBONIZATION Co.), (P.), B., 868*. drying of (Broadbridge, Edser, Stenning, and Minerals Separation North American Corp.), (P.), B., 68*. efficiency of, in open grates (BLIGH and HODSMAN), B., 353. velocity of reaction of carbon dioxide with various kinds of (LEFFLER), B., 545. free-burning carbonised, for open fires (GREGER), B., 864. compressed, for heating and cooking (Weniger), (P.), B., 210. gaseous (Rose and Carbo-Hydrogen Co. of America), (P.), B., 769. burners for (HAMMOND and SHACKLETON), (P.), B., 68. generation of (UMPLEBY), (P.), B., 133. for heating of furnaces (WIGGINGTON), B., 864. for welding (HARRIS and ROSE), (P.), B., 740. gaseous and liquid, determination of calorific value of (More-HEAD), (P.), B., 134. industrial and domestic, production of, from lignite (DEBAUCHE),

(P.), B., 548.

Fuel or Fuels for internal-combustion engines (MEXER), (P.), B., 134, 516, 721; (Kirschbraun), (P.), B., 274; (Nathan), B., 642; (PARKER), (P.), B., 807. liquid (DE LA RIBOISIÈRE), (P.), B., 358*; (LAURENT), (P.), B., 835. manufacture of (I. G. FARBENIND.), (P.), B., 402; (BADISCHE Anilin & Soda-Fabrik), (P.), B., 868*. from coal (King), B., 641. cracking of (DE LA RIBOISIÈRE), (P.), B., 868. apparatus for combustion of (BECKER), (P.), B., 211. effect of metallic vapours on ignition of (EGERTON and GATES), (P.), B., 737. containing alcohol, treatment of (OSTWALD and BENZOL-VERBAND GES.), (P.), B., 836* refractometric examination of (DIETRICH), B., 594. antiknocking, production of (I. G. FARBENIND.), (P.), B., 357. mixed, production of (BUTLER, POPHAM, MANN, and ROBINSON), (P.), B., 99. low-compression, anti-knock material for (Kettering, Midgley, and Gen. Motors Corp.), (P.), B., 771. motor (Hamby, Woodward, and Grasselli Dyestuff Corp.), (P.), B., 181; (Kettering, Midgley, and Gen. Motors CORP.; LUCIANI), (P.), B., 274; (DEUTSCHE PETRO-LEUM-A.-G. and RIESENFELD), (P.), B., 357; (BLANK; A.-G. Petroleumind. and Herrmann), (P.), B., 467; (I. G. FARBENIND.), (P.), B., 467, 645; (DE LA RIBOISIÈRE), (P.). B., 627*; (Herzog and Hüssy-Bühler), (P.), B., 695; (NORTH and HUDSON), (P.), B., 740; (RIEDEL A.-G.; GUIAUD; PETROLEUM CHEMICAL CORP. and REIMAN), (P.), B., 835; (Moretti; Bassett), (P.), B., 866; (Bereslavsky), (P.), B., 900. purification of (BENZOL-VERBAND), (P.), B., 357. mixing of (KAUWERTZ), (P.), B., 7. starting properties of (LOVELL, COLEMAN, and BOYD), B., 323. composition for testing (SERRAVAOLL and WEIS), (P.), B., 274. antiknock (Cross and Gasoline Products Co.), (P.), B., 548. hydrocarbon, manufacture of carburetted water-gas and (Howard and Standard Development Co.), (P.), B., 134. oil (DIETZ), (P.), B., 386. applied to potteries (Bolt), B., 300. powdered, preparation of (Seidenschnur), (P.), B., 835. burner for (GROTE), (P.), B., 358; (PROCTER), (P.), B., 404. furnaces for (BRASS), (P.), B., 211; (Helbic), (P.), B., 696. delivery of, to furnaces (PROCTER), (P.), B., 517. for use in internal-combustion engines (I. G. FARBENIND.), (P.), B., 866. vegetable, treatment of (SHIMAMOTO), (P.), B., 693. powdered or liquid, burning of, in furnaces (Suffern), (P.), B., 99. sludge, utilisation of (GES. FUR MASCHINELLE DRUCKENT-WASSERUNG), (P.), B., 900. solid, distillation of (Forsans; Hobson), (P.), B., 290; (Still), (P.), B., 595, 643; (Hobson), (P.), B., 836*. fractional distillation of, at low temperatures (Meiro), (P.), B., 245. carbonisation, distillation, and gasification of (WALLACE), (P.), B., 804. cracking of (De la Riboisière), (P.), B., 868. gasification of (Chavanne), (P.), B., 674, 722. absorption of hydrocarbons by (Moore and Sinnatt), B., 593. relative ignition temperature of (NAKAMURA and SHIMOMURA), B., 97. oxidation of (Moore and SINNATT), B., 130. pretreatment of binding materials for (Bascou), (P.), B., 210. determination of sulphur in (SCHÖN and VYKYPIEL), B., 3. fossil, calculation of calorific value of, from analysis (Steuer), B., 4. moist, destructive hydrogenation of (I. G. FARBENIND.), (P.), B., 930. smokeless (Illinois Anthracite Corp., Lomax, and Grant), (P.), B., 866. subdivided, carbonisation of (McEwen and Internat. Com-BUSTION ENGINEERING CORP.), (P.), B., 931*. vaporised, production of dry mixture of, with air (GODWARD), (P.), B., 930. Fuel agglomerates, manufacture of, and their binders (Crossman), (P.), B., 98. Fuel alcohols. See under Alcohols. Fuel briquettes. See under Briquettes. Fuel gas. See under Gas. Fuel research in America (PARR), B., 178.

Fuliga varians, proteins of plasmodium of (KIESEL), A., 799. Fulmarus glacialis (Fulmar petrel), stomach of (ROSENHEIM and WEBSTER), A., 271.

Fulminic acid, reactions of (Passerini and Grulis), A., 149. Fumaranilic acid, phenyl ester (Anschütz), A., 750.

Fumaric acid, second dissociation constant of (DUBOUX and FROMMETT), A., 515.

catalytic hydrogenation of (Sabalitschka and Moses), A., 427. in muscle (NEEDHAM), A., 790.

esters, photochemical reaction of bromine with (EGGERT, WACHHOLTZ, and SCHMIDT), A., 739.

aryl esters of, and their thermal decomposition (Anschütz), A., 750.

ethyl ester, photochemical influence of bromine on (WACHHOLTZ), A., 323.

crystallisation of derivatives of (Viseur), A., 312. detection of, microchemically (WAGENAAR), A., 133.

Fumaric acids, effect of magnetic fields on structure of (BEREZOVsкаја), A., 398.

Fume-cupboards, suction of acid fumes from (VESELY), B., 735. Fumigant, manufacture of, from mixture of carbon tetrachloride

and dichloroethane (Corron and ROARK), B., 862. Fumigation (Moffett and Amer. Cyanamid Co.), (P.), B., 121.

Fungi, formation of acids by (Butkevitsch), A., 280, 382. effect of food factors on growth of (MEYER), A., 280.

growth of, on coal (FISCHER and FUCHS), B., 834.

action of thallium compounds on (I. G. FARBENIND.), (P.), B., 454. wood-rotting, production of acid by (CURTIN), B., 750.

detection of helvellic acid in (Aufrecht), B., 267.

Fungicides (Jacobsen), (P.), B., 233*; (Sanders and Riches, Piver & Co.), (P.), B., 311; (Boynston and E.-Z.-Way Co.), (P.), B., 344; (Ver. für Chem. & Met. Prod.), (P.), B., 499. manufacture of, containing copper (Jenkins, Berger, and Pittsburgh Plate Glass Co.), (P.), B., 919. containing copper and arsenic (Sanders and Riches, Piver

& Co.), (P.), B., 919*.

basic copper sulphates as (HOLLAND, DUNBAR, and GILLIGAN), B., 121.

increasing the adhesiveness of (I. G. FARBENIND.), (P.), B., 233. action of, on grain crops (Flor), A., 996. colloidal (Bordas), B., 151. sulphur (Reedy and Brock), (P.), B., 374.

Furs, bleaching of. See under Bleaching. carroting of (DONNER), (P.), B., 579; (MARTIN), (P.), B., 599. dyeing of. See under Dyeing.

mothproofing of (Jackson and Wassell), B., 870.

Furacyl bromide (Moureu, Dufraisse, and Johnson), A., 465. Furan, manufacture of (WILSON and QUAKER OATS Co.), (P.), B., 797.

derivatives (Lutz), A., 61.

reaction of, with hydrocarbons and aluminium chloride (King), A., 358.

mercurated derivatives of (CIUSA and GRILLO), A., 685.

Furazan oxides, structure of (KINNEY and HARWOOD), A., 367. Furfuracraldehyde, reduction of, by platinum oxide-platinum black and hydrogen (BRAY and ADAMS), A., 972.

Furfuracrolein. Seo Furfuracraldehyde.

Furfuraldehyde, manufacture of, from oathulls (Brownlee), B., 346. catalytic oxidation of (MILAS), A., 973.

solvent properties of, and its derivatives (TRICKEY), A., 721. industrial uses of (KILLEFFER), B., 92.

as fungicide (FLOR), A., 996.

preparation of maleic and succinic acids from (ZAIDAN HOJIN RIKAGAKU KENKYUJO, and YABUTA), (P.), B., 268.

derivatives of (Kasiwaci), A., 61, 671.

detection of, in vinegar (LAMPITT, HUGHES, and TRACE), B., 501. Furfuraldehyde, 5-hydroxy- (Reichstein), A., 61.

Furfuraldehydes, colour reaction of (AKABORI), A., 1087.

Furfuraldoxime, ω-chloro-, and its anilino-derivative (RHEIN-BOLDT, DEWALD, JANSEN, and SCHMITZ-DUMONT), A., 245. Furfuraldoximes (Brady and Goldstein), A., 970, 973.

a-Furfuryl ethers (ZANETTI), A., 570.

iodide (Zanetti), A., 570.

9-Furfurylidene-2-nitrofluorene (LOEVENICH and LOESER), A., 970. Furnaces (Hechenbleikner, Oliver, and Chemical Con-STRUCTION CO.), (P.), B., 63; (DANN and CONDUIT; LIPPERT), (P.), B., 175; (VERMEYEN), (P.), B., 239; (RADIATION, LTD., and S. N. and E. R. BRAYSHAW), (P.), B., 320; (PEDERSEN; FARRENWALD), (P.), B., 431; (SURFACE COMBUSTION Co.), (P.), B., 688.

Furnaces, supply of air to (Ljungström), (P.), B., 575.

heating of (KING, TAUDEVIN & GREGSON, and NELSON), (P.), B., 239; (Helbig), (P.), B., 352*.

gaseous fuels for (Wiggington), B., 864. control of cooling in (Roucka), (P.), B., 545. cooling screens for (Deuts. Babcock & Wilcox Dampfkesselwerke), (P.), B., 545.

automatic regulation of (British Thomson-Houston Co. and Smith), (P.), B., 863.

apparatus for charging (WOODALL-DUCKHAM, LTD. and WELLINGTON), (P.), B., 592.

machines for discharging or charging of (GIBBONS BROS. and Cook), (P.), B., 863.

dismantling rabble-arms of (Bracq), (P.), B., 225.

bridge for (CROWTHER), (P.), B., 208.

device for removal of lids of (British Thomson-Houston Co. and Otis), (P.), B., 434.

ash-cooling screens for (Babcock & Wilcox Dampfkessel-WERKE), (P.), B., 177.

refractory heat screen for (CARBORUNDUM Co.), (P.), B., 351. settings for (PLIBRICO JOINTLESS FIREBRICK Co. and PIETERS),

(P.), B., 431.

walls of (Balley), (P.), B., 431; (SIMON-CARVES, LTD. and CLARK), (P.), B., 897.

fluid-cooled walls for (POWER SPECIALTY Co.), (P.), B., 242, 321. observation window for (VASTINE ENGINEERING PRODUCTS CORP.), (P.), B., 690.

with suspended arches, blocks for (Morron and Hardrove), (P.), B., 800, 898.

for rendering iron rustless (JEFFREY), (P.), B., 606.

for smelting of metals (KÜHN), (P.), B., 561.

for heating or melting of metals (ZILLIACUS), (P.), B., 970.

for heating metal sheets (BRITISH FURNACES and SMITH), (P.), B., 754*.

for roasting ores (BRACQ), (P.), B., 583.

Furnaces, annealing (Stassinet), B., 14; (Siemens Elektrowarme-Ges.; Siemens-Schuckertwerke and Heraeus-VACUUMSCHMELZE; KENWORTHY), (P.), B., 115; (SPECK), (P.), B., 561; (Körber), (P.), B., 583; (SMALLWOOD and FALLON), (P.), B., 705. parallel-motion doors for (Wiggin & Co. and Lobley), (P.),

B., 177.

hermetically closing annealing chambers of (Siemens-SCHUCKERTWERKE), (P.), B., 848.

gas-fired (Dowson & Mason Gas Plant Co. and Paton), (P.), B., 970.

tunnel (Schubert and Pletsch), (P.), B., 912.

bright annealing (STEMENS-SCHUCKERTWERKE, HERÆUS-VACUUMSCHMELZE, and ROHN), (P.), B., 17; (SIEMENS-SCHUCKERTWERKE), (P.), B., 569, 784. working of (SIEMENS ELEKTROWARME-GES.), (P.), B., 528,

drying of (Siemens-Schuckertwerke), (P.), B., 491. with liquid sealing (SIEMENS-SCHUCKERTWERKE), (P.), B.,

785. non-oxidising annealing (LANE), (P.), B., 583.

blast (PARKER), (P.), B., 704.

hearths of (BARTEN), (P.), B., 416.

effect of varying ash content of coke used in working of (GILL), B., 845.

interaction of gases and ore in (BONE, REEVE, and SAUNDERS), B., 484.

boiler (Power Specialty Co.), (P.), B., 129.

economical firing of (LJUNGSTRÖM), (P.), B., 863. cupola (Dechesne), (P.), B., 302; (POUMAY), (P.), B., 785*.

electric (British Thomson-Houston Co. and SEEDE; Studien-GES. FÜR WIRTSCHAFT & IND.), (P.), B., 116; (NORTH), (P.), B., 117; (SIEMENS-SCHUCKERTWERKE, HERÆUS-VACUUM-B., 117; (SIEMENS-SCHUCKERTWERKE, HEREUS-VACUUM-SCHMELZE, and ROHN), (P.), B., 257; (KEENE and WESTING-HOUSE ELECTRIC & MANUF. Co.), (P.), B., 257, 370, 850; (INTERNAT. GEN. ELECTRIC Co. and ALLGEM. ELEKTRICITÂTS GES.), (P.), B., 391; (WOODSON AND WESTINGHOUSE ELECTRIC & MANUF. Co.), (P.), B., 391, 607; (COPE AND ELECTRIC FURNACE Co.), (P.), B., 493; (BROOKE AND SWINDELL & BROTHERS), (P.), B., 493; (BROOKE AND SWINDELL & BROTHERS), (P.), B., 583; (KELLEHER AND HARPER ELECTRIC FURNACE CORP.), (P.), B., 785; (CROESE), (P.), B., 820*; (RENNERFELT), (P.), B., 850; (FITZGERALD AND HARPER ELECTRIC FURNACE CO.), (P.), B., 850, 914; 850, 914;

Furnaces, electric (Sablyet), (P.), B., 858; (Chapman and Gen. ELECTRIC Co.; STEENSTRUP and GEN. ELECTRIC Co.), (P.), B., 881; (SEEDE and GEN. ELECTRIC Co.), (P.), B., 881, 914; (BRITISH THOMSON-HOUSTON CO., NEWMAN, and STEENSTRUP; OTIS and GEN. ELECTRIC CO.), (P.), B., 914; (COPE, BENZINGER, and ELECTRIC FURNACE Co.), (P.), B., 943.

electrodes for (Norske Aktieselsk. Elektrokemisk Ind.),

(P.), B., 226, 257, 562.

electrode carriers for (A.-G. Brown, Boveri & Co.), (P.), B., 493, 528.

electrode economiser for (Armstrong, Whitworth & Co., and WINDLE), (P.), B., 562.

electrode operation in (BRITISH THOMSON-HOUSTON Co. and SEEDE; ÎNTERNAT. GEN. ELECTRIC CO. and ALLOEM. ELEK-TRICITÄTS-GES.), (P.), B., 727.

heating elements for (BRITISH THOMSON-HOUSTON Co., OTIS, and IPSEN), (P.), B., 881.

refractories for (Kothiny), B., 908. resistors for (British Thomson-Houston Co., Irsen, and OTIS), (P.), B., 608; (REID and WESTINGHOUSE ELECTRIC & MANUF. Co.), (P.), B., 881.

for treatment of carbonaceous materials (NAUGLE), (P.), B., 694.

for gas reactions (Scarpa), B., 529; (Thomas), (P.), B., 607.

for heating gases (A.-G. Brown, Boveri & Co.), (P.), B., 561. for glass or cement melting (Cornelius), (P.), B., 303.

for smelting, insulation of electrodes of (A.-G. Brown, Boveri & Co.), (P.), B., 944.

are (British Thomson-Houston Co. and Chapman), (P.),

B., 303; (EVRÉINOFF and TELNY), (P.), B., 338. closed, mounting for electrodes of (I. G. FARBENIND.), (P.), B., 530.

high-frequency (GERTH and LORENZ A.-G.), (P.), B., 882*. induction (Bronn), B., 81; (Northrup), B., 683.

for small charges (STEINHAUS and KUSSMANN), B., 848. induction (DE ZUBIRIA), (P.), B., 226; (UNGER and GEN. ELECTRIO CO.), (P.), B., 450; (AJAN ELECTROTHERMIC CORP. and NORTHRUP), (P.), B., 492; (NORTHRUP), (P.), B., 660; (BRITISH THOMSON-HOUSTON CO. and UNGER), (P.), B., 705*, 882*; (WEED and GEN. ELECTRIC Co.; HOSKINS), (P.), B., 943.

Miguet, for manufacture of iron alleys (ARROUET), B., 633.

non-ferrous (CAMPBELL), B., 255. platinum-wound resistance (ORTON and KREHBIEL), B., 529. recuperative (Cope and Electric Furnace Co.), (P.), B.,

943. resistance (KRUPP A.-G.), (P.), B., 786.

smelting, sealing means for (A.-G. Brown, Boveri & Co), (P.), B., 561.

enamelling, gas-fired, for cast iron (READ), B., 749.

fusion (GORDON, GROVES, and WESTERN ELECTRIC Co.), (P.), B., 31.

gas-fired, for use in production of coke and gas (STILL), (P.), B., 867.

gas- or oil-fired, heating chamber for (HISLOP), (P.), B., 400. gas-producer (Wollaston), (P.), B., 739; (Toogood and Dempster & Sons), (P.), B., 835.

checker work for regenerators of (LINDNER), (P.), B., 321.

metallurgical (Greenway; Tooth; Wüst), (P.), B., 115; (Fahrenwald), (P.), B., 370; (Paton and Wood), (P.), B., 659; (Talbot), (P.), B., 659, 943*; (Carborundum Co. and Hawke; Smonds and Hyde), (P.), B., 753. refractory blocks for (LONGENECKER), (P.), B., 881

muffle (BRIDGE, PERVIER, and PARKHURST), (P.), B., 897. for bright-annealing (SIEMENS-SCHUCKERTWERKE), (P.), B., 561.

oil-fired (HAWKINS), (P.), B., 65.

open-hearth (Bosshardt), (P.), B., 449*; (Danforth and Open Hearth Combustion Co.), (P.), B., 913*.

ore-roasting, mechanical (MANUF. DE PROD. CHIM. DU NORD), (P.), B., 912.

preheating (SMALLWOOD and FALLON), (P.), B., 434*.

puddling (Blessing), (P.), B., 81. regenerative (SODERBERG; MORGAN CONSTRUCTION Co.), (P.), B., 464.

retort. See Retort furnaces.

roasting (Hartley, Fowler, Baird, and Nichols Copper Co.), (P.), B., 784.

Furnaces, roasting, continuous, for zinc or lead ores (Tocco and LANDI), (P.), B., 912.

rotary (Martin and Taylor; Bentley), (P.), B., 239; (Lacore and Piron), (P.), B., 287; (Wisner), (P.), B., 431; (Gewerkschaft Sachtleben and Kuppers; Tocco and Landi), (P.), B., 927. heat-insulated walls for (Trocknungs-, Verschwelungs- &

Vergasungs-Ges.), (P.), B., 801. fusion in (Polysius Eisenglesserei & Maschinenfabr.), (P.), B., 225.

hearth (Internat. Gen. Electric Co. and Allgem. Elekt.-GES.), P.), B., 287.

roasting (KAUFFMANN), (P.), B., 225.

shaft (WOODALL-DUCKHAM, LTD. and REBER), (P.), B., 128. working of (HESKAMP), (P.), B., 659. use of furnace dust in (HESKAMP), (P.), B., 575.

Siemens-Martin, cooling devices for (Bulle), B., 142.

smelting (T. and W. LEWIN), (P.), B., 784.

thermo-chemical synthetic reactions in (JACOBS and DU PONT DE NEMOURS & Co.), (P.), B., 400.

tin-plate and sheet-mill (THOMAS & Co. and DAVIES), (P.), B., 415.

Furoperylene, constitution of (ROLLETT and BAYER), A., 240. Furyl ketones, transitory coloration of (Kasiwaci), A., 61.

Furylacetylene, and its metallic derivatives (Moureu, Dufraisse, and Johnson), A., 465.

Furylacrylic acid, action of bromine on, and its tetrabromide (Moureu, Dufraisse, and Johnson), A., 464.

Furylallyl alcohol, and its a-naphthylurethane (BRAY and ADAMS),

2-a-Furylbenzoselenazole (Bogert and Stull), A., 983.

Furylbromoethylene (Moureu, Dufraisse, and Johnson), A., 465

Furylethylene, and its dibromide (Moureu, Dufraisse, and Johnson), A., 465.

 α -Furyl- Δ ^{α}-propene, β -nitro- (Kasiwagi), A., 671. Furylpropiolic acid (Moureu, Dufraisse, and Johnson), A., 465. Furylpropyl alcohol, and its derivatives (Bray and Adams), A.,

ω-Furylstyrene, mono-, di-, and tri-nitro- (Kasiwagi), A., 671. Fusarium lycopersici, equilibria in the mycelium of (Scott), A.,

Fuscochlorin (KYLIN), A., 703. Fuscorhodin (KYLIN), A., 703.

Gadolinium, are spectrum of (PIÑA DE RUBIES), A., 300, 602. Gadolinium sulphate, low-temperature magnetic susceptibility of (GIAUQUE), A., 926.

Galactoaraban, and its copper salt (Heiduschka and Terren-BORN), A., 1226.

d-Galacto-d-arabinose (ZEMPLÉN), A., 752.

Galactoarabonic acid, and its calcium salt (Levene and Winter-STEINER), A., 1171.

Galactonic acid, bismuthyl compound of (Browning, Cohen, Gulbransen, Phillis, and Snodgrass), A., 855.

Galactose, structure of (HAWORTH, HIRST, and JONES), A., 1173. acclimatisation of yeast to (v. Euler and Jansson), A., 1114. fate of, in rabbits (Corley), A., 897.

d-Galactose, ultra-violet absorption spectrum of (Kwieciński and Marchlewski), A., 291.

transformation of, to rhodeose (Freudenberg and Raschig), A., 858.

6-β-d-Galactosido-α-glucose, and its octa-acetate and phenylosazone (Helferich and Rauch), A., 44.

Galacturonic acid, behaviour of, in the organism (HURTHLE), A., 374.

d-Galacturonic acid, hydrate of (Smolenski and Wlostowska), A., 229.

Galegine, pharmacology of (MÜLLER and REINWEIN), A., 1109. Galegine sulphate, hypoglycamic properties of (Simonnet and TANRET), A., 991.

Galena as a wireless detector (SCHLEEDE and BUGGISCH), A., 504. Galeopsis ochroleuca, constituents of (Zellner, Falkowsky, SPITZER, and TASCHNER), A., 598.

Gall, manufacture of acids from (CHEM. FABR. VORM. SANDOZ), (P.), B., 956.

A., 1071. action of arsenic acid on (ILJIN), A., 151. sodium salt, bismuthyl compound of (Browning, Cohen, Gulbransen, Phillis, and Snodgrass), A., 855. detection of, in fruit and grape wines (KLOSS and SEIFERT), B., 612. tannin-free, determination of gallic acid in (HIBSCH), B., 858. Gallium, absorption in under-water spark spectrum of (SMITH and Muskat), A., 607. second spark spectrum of (RAO), A., 390. ionisation and resonance potentials in (Jarvis), A., 391. crystal structure of (JAEGER, TERPSTRA, and WESTENBRINK), A., 297. and its alloys, purification of (British Thomson-Houston Co. and Boyer), (P.), B., 80. properties of, and its use in thermometers (BOYER), A., 100. in flue-dust (RAMAGE), B.; 447. "aluminon" (Corey and Rogers), reaction of, with A., 219. Gallium verum, extraction of asperuloside from (Hérissey), A., 1116. Gallodehydrodeoxycholic acid (Yonemura), A., 169. Gallodeoxycholic acid, and its barium salt (YONEMURA), A., 169. Gallstones, constituents of, in relation to choletithiasis (PEEL), A., 789. Galvanising apparatus (WYND and SCHUELER), (P.), B., 606. Gambier, extraction and valuation of (EATON and BISHOP), B., 230. Garnet, manganese, from Amelia (Shannon), A., 1165. Garbage, reduction of (MacLaurin and Smith), (P.), B., 622. Gas, manufacture of (Nielsen and Laine), (P.), B., 273; (RINTZE), (P.), B., 625; (BEAN), (P.), B., 721; (KEMP), from powdered charcoal (HILKER), (P.), B., 770. from oil or tar (WANNEBO), (P.), B., 468. from heavy oils (CHILOVSKY), (P.), B., 805, 867. distillation of, from wood (STAFFORD), B., 97. purification of (BRADY), (P.), B., 645. dehydration of (SPERR), B., 243. cyanogen in, and its removal (MEZGER), B., 243. effect of cooling on the naphthalene content of (OTT and HINDEN), B., 692. removal of sulphuretted hydrogen from (SMITH, FINLAYSON, and WOODALL-DUCKHAM, LTD.), (P.), B., 437*. for cutting and welding purposes (Rose and Carbo-Hydrogen Co. of America), (P.), B., 726. calorific value of (Gerpert), B., 179. Gas, air, apparatus for production of (Bregeaut), (P.), B., 596. production of, from inflammable liquids (Foersterling), (P.), B., 625, 674, 836*. blast-furnace, cleaning of (Hewson), B., 672. coal, manufacture of (Toogood and Demfster & Sons), (P.), B., 6; (South Metropolitan Gas Co. and Evans), (P.), B., 244; (BEAN and BEAN PROCESS SYNDICATE), (P.), B., 385; (HUMPHREYS & GLASGOW and STELFOX), (P.), B., 644; (TRAVERS and CLARK), (P.), B., 770. corrosion of silica retorts used in (DIAMOND), B., 834. apparatus for generation of, from liquid hydrocarbons (Goldsbrough and Goldsbrough Patents Co.), (P.), B., 404. purification of (GARNER, MILLER, SHANER, and STANDARD DEVELOPMENT Co.), (P.), B., 273; (Fulweiler, Jordan, and U.G.I. Contracting Co.; Stone and Western Gas Construction Co.; Reynolds), (P.), B., 770. from carbon monoxide (Kniskern and Atmospherio Nitrogen Corp.), (P.), B., 403. from sulphur (APPLEBEY and LANYON), B., 131; (FISCHER and Tropsch), (P.), B., 385. removal of tar fog from (Ross), B., 513. cracking of (Kohlenveredlung Ges.), (P.), B., 210, 469*. extraction of aromatic hydrocarbons from (Bjerregaard and Doherty Research Co.), (P.), B., 516. recovery of benzene from (N.V. Silica en Ovenbouw Mij. and Otto & Co.), (P.), B., 740. products of combustion from flames of (DAVIES and HARTLEY), B., 642. from low-temperature carbonisation, hydrocarbons in (Frex and YANT), B., 546. decomposition of, by bacteria (HASEMANN), A., 701.

Gallic acid, action of aminoacetals on (HINSBERG and MEYER),

Gas, coal, analysis of (FREY and YANT), B., 177 determination of naphthalene in (BONTE), B., 834. coal and water, production of, from bituminous fuel (Power-GAS CORP. and RAMBUSH), (P.), B., 515. desulphurisation of (RAFFLOER and LEUCHTENBERG), (P.), B., 403. removal of hydrogen sulphide from (LEUCHTENBERG), (P.), B., 626. coke-oven, composition of (SAUERMANN), B., 97.... at Routchenkovo (FEODOROFF), B., 546. sulphur in (WEINDEL), B., 321. removal of hydrogen sulphide from (GLUUD and SCHÖN-FELDER), B., 321. conversion of ethylene in, into alcohol (GLUUD and Schneider), B., 209. use of, in the steel industry (WILSON), B., 142 coke-oven and producer, removal of tar from (WEYL), B., 161. combustible, manufacture of (MURDOCK, LUNGREN, EVANS, and PIER PROCESS CORP.), (P.), B., 35; (COPLEY, MURDOCK, LUNGREN, and EVANS), (P.), B., 246*; (WILCOX), (P.), B., 402. generation of (HACKFORD and HAKOL, LTD.), (P.), B., 436. electrolytic, ignition of (FINCH and COWEN), A., 1146. HENSHAW, and HOLMES & Co., (P.), B., 182*.
drying of (Holmes & Co., Parker, and Henshaw), (P.),
B., 468; (Cooper, Henshaw, and Holmes & Co.), (P.), treatment of, with liquids (Pease), (P.), B., 644. desulphurisation of (Will), (P.), B., 805. recovery of sulphur from (Cundall), B., 322. separation of tar and ammonia from (HOLMES & Co., PARKER, and Henshaw), (P.), B., 515. heating and illuminating, manufacture of (Tully and Yeo), (P.), B., 547. determination of nitrogen in (STEUER), B., 34. hydrocarbon, production of (Gibson), (P.), B., 577. illuminating, from lignite (SCHMIDT), B., 691; (SEIDENSCHNUR). B., 737. illuminating or power, production of, from distillable fuel (GIBSON), (P.), B., 867. natural, explosibility of (COWARD, JONES, DUNKLE, and HESS), oil, manufacture of (Barbier, Benard & Turenne), (P.), B., 211*; (Pike), (P.), B., 900. refractories for (Knollman), B., 750. apparatus for generation of (Hodoson and Jones), (P.), B., 549. producer, flame temperature of (NITZSCHMANN), B., 322. addition of furnace gases to (Anmon), B., 131. horizontal retort settings for (Goldsmith), B., 513. representation of, by a gasification diagram (Ruhland), B., 691. determination of hydrogen sulphide in (Ciochina), B., 465. town, purification of, in relation to corrosion of mains (PARKER), water (Combustion Rationelle), (P.), B., 244. manufacture of (Parker), B., 354; (Nielsen and Laing), (P.), B., 436, 644; (Western Gas Construction Co.), (P.), B., 468; (Bowater), (P.), B., 515; (Humphreys & Glasgow and Stelfox), (P.), B., 594, 867. from powdered fuel (I. G. Farbenind.), (P.), B., 548, 770. from coal dust and finely-divided fuels (Gwosdy, B., 959. automatic apparatus for (HUMPHREYS & GLASGOW and Terzian), (\overline{P}_{\cdot}) , B., 674. lining and checker brick for (BRADY), B., 410. generator for, from bituminous fuel (MISCH), (P.), B., 770. silicon carbide refractories for (HARTMANN and KING), equilibria in formation of alcohols and hydrocarbons from (Ѕмітн), В., 593. evaluation of oil from (MITSUHASHI), B., 737. synthesis of paraffins from (FISCHER and TROPSCH), B., 514. carburetted, manufacture of (Frankfurter Gas-Ges., TILLMETZ, and SCHUMACHER), (P.), B., 34; (KLEIN and STONE & WEBSTER), (P.), B., 515; (LITTLE; STEVEN-SON), (P.), B., 577; (SHIPPEE and STONE & WEBSTER, Inc.), (P.), B., 625; (PETROLEUM CHEMICAL CORP. and STEVENSON), (P.), B., 645.

from bituminous fuel (MISCH), (P.), B., 867.

Gas, water, carburetted, manufacture of motor fuel and (Howard and STANDARD DEVELOPMENT Co.), (P.), B., 134. sulphur content of gas oils for production of (Brender A

Brandis), B., 546. composition of benzol from (Voss), B., 803.

enriched, production of (TRENT and TRENT PROCESS CORP.), (P.), B., 6.

Gases, review of work on (Moles), A., 194.

Kipp's apparatus for preparation of, free from air (HILLER), A., 642.

electrolytic generation of (NOEGGERATH), (P.), B., 562.

production and storage of, under pressure (HEYLANDT), (P.), B., 545.

theories of, and deduction of an equation of state (DUCLAUX), A., 927.

kinetic theory of, and hydrodynamics (ROCARD), A., 826 refractive index of, at high temperatures (CHENEY), A., 294.

variation of refractive indices of, with pressure (OPLADEN), A., 499. ionic refractivity and scattering of light by (HAVELOCK),

A., 189.

effect of changes in potential and frequency on spectra of (SWINDLER), A., 82.

ehemiluminescenee in (KONDRATEEV), A., 1124.

scattering of positive rays by (Thomson), A., 4. electrical double refraction of (RAMAN and KRISHNAN), A., 397. magnetic susceptibility of, at low pressures (VAIDYANATHAN),

A., 300. motion of slow electrons in (FAXÉN and HOLTSMARK), A., 1119. Saha equation applied to ionisation of (Homes), A., 181. effect of the medium on mobility of ions in (Erikson), A., 1002.

carriers of electricity in (SCHILLING), A., 708. electric discharge in (I. G. FARBENIND.), (P.), B., 320.

apparatus for (I. G. FARBENIND., MÜLLER, and NITZSCHKE), (P.), B., 849.

using an exploring electrode (EMELÉUS), A., 293. hot-cathode vacuum discharges in (Wolf), A., 909.

electrical cracking of (Rowland and C. & C. Developing Co.), (P.), B., 67.

chemical behaviour of, in electromagnetic fields (Moens and Juliard), A., 1042.

dielectric constants of, at low pressures (Wolf), A., 188.

temperature variation of dielectric constants of (v. Braun-MÜHL), A., 294.

thermal porperties of (CARDOSO and FIGRENTINO), A., 302; (Cardoso; Cardoso and Sorrentino), A., 335.

thermal conductivity of (WEBER), A., 403; (HEROUS and Laby), A., 614.

measurement of specific heat of (TRAUTZ), A., 817.

molecular heat of, from equilibrium constants (Shilling), A., 12.

at low temperatures (Perrakis), A., 403.

specific heat of, at high temperatures and pressures (Burlot), A., 301.

mean free paths in, comprising attracting rigid clastic spheres (Condon and Van Amringe), A., 302.

density of (SHAXBY), A., 12.

apparatus for determinations of (Reineke), (P.), B., 127; (LINDERMAN and AMER. METER Co.), (P.), B., 898. critical constants of (Pickering), A., 194.

thermodynamics of degeneration of (DE Kolosovski), A., 936. apparatus for drying and cooling of (Seligmann; Forgan-Роттѕ), (Р.), В., 2.

apparatus for cooling, mixing, and adsorbing (ALLGEM. VERGAS-

ungs-Ges.), (P.), B., 241.

apparatus for cooling and purification of (RICHARDSONS, WESTGARTH & Co., and INOLIS), (P.), B., 897.

cooling and liquefaction of (SELIGMANN), (P.), B., 207.

liquefaction of (VAN NUYS, SCHLITT, and AIR REDUCTION Co.), (P.), B., 96.

liquefaction and rectification of (VAN NUYS and AIR REDUCTION Co.), (P.), B., 96.

liquefaction and separation of (CLAUDE and LAZOTE, INC.), (P.), B., 65*.

liquefied, pressure of, within containers (NITZSCHMANN), non-condensable, extraction of, in condensation of vapours

(Mercier), (P.), B., 671. solidified, luminescence of, under the action of rays (VEGARD and KEESOM), A., 1124.

Gases, mercury compressor for (DE REMER), A., 537.

pressure-temperature formula for (Batschinski), A., 195. alteration in pressure on mixing (JAKOB), A., 403.

relation between temperature and energy of (WERTHEIMER), A., 1132.

viscosity of (HASSÉ and COOK), A., 616.

lecture experiment to show (PRZIBRAM), A., 195.

equation of state for (Shiba), A., 195.

equilibrium pressure of, in mixtures (Lurie and Gillespie), A., 616.

effect of an indifferent gas on concentration and activity of, in equilibrium with a condensed phase (McHAFFIE), A., 416. influence of temperature on solubility of (Tammann), A., 105. cryoscopy of the solubility of (Garelli and Monath), A., 303. dissolved in water, measurement of (DUNOYER), A., 845.

solubility of, in cyclohexanol (CAUQUIL), A., 303.

apparatus for controlling saturation temperature of (CARRIER Engineering Co. and Groom), (P.), B., 863.

adsorption of (SILICA GEL CORP. and HOLDEN), (P.), B., 241. measurement of (AGDE and SCHMITT), A., 642.

kinetic theory of (Magnus), A., 105.

by charcoal (Sameshima), A., 304; (Ruff and Roesner; Ruff), A., 305.

by glass walls (CRESPI), A., 406.

by liquids (Riou), A., 224.

on the surface of mercury (OLIPHANT and BURDON). A., 1021.

by pyrophoric metals (NIKITIN; NIKITIN and SHARKOV), A., 406.

by metallised silica gels (REYERSON and SWEARINGEN), A., 198.

heat of adsorption of (CASSEL), A., 314.

by charcoal (Keyes and Marshall), A., 207; (Grego), A.,

recovery of, by solid adsorbents (GODEL), (P.), B., 464, 689.

occlusion of, by metals and alloys (Iwasé), A., 15.

surface adsorption and velocity of reaction at interfaces of solids and (Constable), A., 322.

activation of, by adsorption (KISTIAKOVSKI), A., 314; (TAYLOR and KISTIAKOVSKI), A., 426.

drying of (I. G. Farbenind.), (P.), B., 33, 832*. drying and purification of (Carrier Engineering Co. and Groom; König), (P.), B., 512.

purification of, centrifugally (ALEXANDER), (P.), B., 65.

by filtration (MATLOCK and MONROE-LOUISIANA CARBON Co.; CHRISTOFFELS), (P.), B., 467. by means of solid catalytic or other reactive agents

(HENSHAW, WATSON, and HOLMES & Co.), (P.), B., 867. from solids (PRAT), (P.), B., 210.

electrical purification of (SIEMENS-SCHUCKERTWERKE), (P.), B., 288, 391, 660; (SIEMENS-SCHUCKERTWERKE and MÜLLER), (P.), B., 660; (METALLBANK & METALLURGISCHE GES.), (P.), B., 849.

indication of the exhaustion of substances used for cleaning (DEUTS. GASGLÜHLICHT AUER-GES.), (P.), B., 690.

filter for (STARK), (P.), B., 434

with a high oxygen content, filtration of (I. G. FARBENIND.), (P.), B., 897.

recovery of condensible vapours from (ARMSTRONG), (P.),

dehydration of (CLAUDE and LAZOTE), (P.), B., 140*. removal of suspended particles from (PORTHAM and TANGENT-

IAL DRYERS), (P.), B., 544.
apparatus for removal of dust from (Schulz and Loriot),

(P.), B., 959. indicating or controlling device operating in presence of

impurities in (DEUTSCHE GASGLÜHLICHT-AUER-GES.), (P.),

desulphurisation of (PRUDHOMME), (P.), B., 188; (GLUUD and KOPPERS Co.), (P.), B., 469*; (STILL), (P.), B., 867.

separation of, into fractions (Szczepanowski), (P.), B., 2. centrifugal apparatus for separation of (Synthetic Ammonia &

NITRATES and HUMPHREY), (P.), B., 842.

separation of mixtures of (Benson), (P.), B., 929. separation of ternary mixtures of (Van Nuys and Air Reduc-TION Co.), (P.), B., 65*. separation of tar from (Nolze Ges. Gasreinigung & Kühler-

BAU), (P.), B., 835. apparatus for extraction of, from liquids (MABAG, MASCHINEN

& APPARATEBAU A.-G.), (P.), B., 464.

352Gases, apparatus for treatment of, with liquids (SMITH), (P.,) B., 2; (VISCO ENGINEERING Co. and SMITH), (P.), B., 512; (Holmes, Henshaw, and Holmes & Co.), (P.), B., 768. and vapours, apparatus for precipitation of liquids from (FIALA), (P.), B., 929. mixing of (FALKENTHAL), (P.), B., 832. storage and transport of (UNION GENERALE CO-OPERATIVE), (P.), B., 66, 241. ignition of (WALLS and WHEELER), B., 243. by explosion (CAMPBELL and WOODHEAD), A., 115. by hot wires (SHEPHERD and WHEELER), B., 803. vibrations occurring during (Morgan), A., 630. ignition points of, at different pressures (Dixon and Higgins), A., 115. explosions of (Brown and Watkins), B., 243, 322; (Saunders; SAUNDERS and SATO), A., 605. combustion of, at high pressures (Bone and Newitt), A., 631; (TOWNEND), A., 1146. in the electric discharge (FINCH and COWEN), A., 1146. in nitrous oxide (Dixon and Higgins), B., 513. radiation and collision in reactions of (HIBBEN), A., 948. reduction of carbon dioxide in (WIBERG), (P.), B., 645... rate of reduction of metallic oxides by (EMMETT), A., 526. evolved in chemical processes, apparatus for prevention of damage by (Soc. Anon. de Perfectionnements Electro-LXTIQUES), (P.), B., 832. containing phosphorus, manufacture of (KYBER), (P.), B., determination of dust content of (SIEMENS-SCHUCKERTWERKE), (P.), B., 241. determination of luminous constituents in (I. G. FARBENIND.), (P.), B., 210. determination of solvent vapours in (WEINDEL), B., 435. Gases, acidic, granules for adsorption of (LEVY), (P.), B., 907. asphyxiating, for combating vermin (SAUER), (P.), B., 830. burner, purification of (Kraffet), (P.), B., 532*. carbonaceous, decomposition of (Canada Carbide Co. and Wisdom), (P.), B., 210; (Canada Carbide Co.), (P.), B., 740. dust separator for (THYSSEN & Co. and TRUSCHKA), (P.), B., 245. removal of dust from, containing tar vapours (Kohlen-SCHEIDUNGS-GES.), (P.), B., 673. coal-distillation, recovery of ammonia and sulphur from, by the Burkheiser process (Burkheiser), B., 834. compressed, handling of (ERNST), B., 319. decomposable, rotation of the electric discharge in (GUYE and LUYET), A., 1119. degenerated, quantum mechanics of (JORDAN), A., 915. diatomic, rotation-vibration entropy of (Széll), A., 927. dipole, influence of a magnetic field on dielectric constants of (Pauling), A., 188. dipolar, dielectric constants and Stark effect for (MANNEBACK), A., 180. drying, furnace for supplying (GENERAL RUBBER Co. and MANSFIELD), (P.), B., 512. exhaust, disposal of (Thompson), (P.), B., 133. flue, filtration apparatus for (SIEMENS & HALSKE and GRÜSS), (P.), B., 465. recovery of carbon dioxide from (RABINOVITSOH), B., 271. from Siemens-Martin furnace, recovery of flue dust containing lead and zinc from (SCHLEICHER), B., 222. determination of carbon dioxide in (Chopin), (P.), B., 2. furnace, apparatus for analysis of (Alsberg, Ralph, and Alsberg), (P.), B., 768*. industrial, recovery of constituents from (Schroeder), (P.), B., 323. desulphurisation of (Soc. Nat. Recherches Traitement Combustibles), (P.), B., 180. inert, refractive and dispersive constants of (CUTHBERTSON), A., 499. ultra-violet absorption of radiation by (CUTHBERTSON), A., 499. inflammable, combustion of mixtures of air and (BERL and WERNER), B., 546. detection of (RINGROSE), (P.), B., 468.

mixed, scattering of light by (RAMDAS), A., 93.

ionisation of, by foreign ions (DUFFENDACK and SMITH),

ionic mobility in (MAYER), A., 1001.

A., 604.

Gases, mixed, containing detonation inducers and suppressors, effect of X-rays on ionisation of (Clark), B., 692. electric discharge in (Terroux), A., 82. pressure of (Lennard-Jones), A., 405. friction, heat conductivity, and diffusion in (TRAUTZ), A., 194. liquefaction and fractionation of (Mewes), (P.), B., 241. iquefaction and separation of (VAN NOVS and AIR REDUC-TION Co.), (P.), B., 96, 320; (L'AIR LIQUIDE), (P.), B., 320. condensation of, to form ideal solutions (SIMONS), B., 399. continuous adsorption by porous material of (I. G. FARBEN-IND.; WEGA WÄRMETECHN. GES. AACHEN), (P.), B., 465. combustion of (MAXWELL, PAYMAN, and WHEELER), A., 317. desulphurisation of (Soc. Internat. Procedes Prudномме), (Р.), В., 245. apparatus for determination of composition of (Heinioke and June), (P.), B., 863*. determination of one constituent of (Mase), (P.), B., 592, 898*. separation of (VAN NUYS and AIR REDUCTION Co.), (P.), B., 96, 160; (WILKINSON and AIR REDUCTION Co.), (P.), B., 400; (LE ROUGE and L'AIR LIQUIDE), (P.), B., 400* 736*; (Ges. für Linde's Eismasohinen), (P.), B., 465, 629; (Frankl), (P.), B., 512. containing hydrogen, separation of (CLAUDE and LAZOTE, Ing.), (P.), B., 320*. natural, analysis of (Henrich and Herold), A., 1160. non-ideal, with linear isometries, equilibria of (Keyes), A., 727. olefine-bearing, preparation of alcohols from (Petroleum CHEMICAL CORP. and DAVIS), (P.), B., 900. organic, separation of, from mixtures (I. G. FARBENIND.), (P.), B., 241. paramagnetic, magnetic double refraction in (KRISHNAN), A., 714. Curio's law for (GERLACH and LEHRER), A., 86. stopping power of, for a-particles (Thomas), A., 606. ionisation of, by collisions (HARNWELL), A., 604. ionisation potentials and atomic radii of (EVE), A., 1000. ionisation in mixtures of hydrogen and nitrogen with (HARN-WELL), A., 709. solubility of, in water (VALENTINER), A., 508. real, application of Dalton's law to (JAKOB), A., 403. saturated, densities of, at corresponding temperatures (Herz), volatile, analysis of (FAUST and FISCHER), A., 125. Gas absorption apparatus, tower, theory of (CANTELO), B., 1. Gas analysis (Chopin), (P.), B., 2. new methods of (RASSFELD), A., 747. calculation of (BRUTZKUS), A., 1158. Gas analysis apparatus (Brown Instrument Co.), (P.), B., 400; (Perquin; Griffiths), B., 591; (Svenska Artiebolaget Mono; Levinsohn), (P.), B., 592; (Tate and Taylor Instrument Co.), (P.), B., 768; (Eisenschitz and Balley METER Co.), (P.), B., 960. adjustment of levelling bulb on (McCollister and Wagner), for determination of organic vapours (BREMER), B., 290. continuously-operating (Rodhe and Svenska Aktiebolaget Mono), (P.), B., 898. Hempel, without absorption bulbs (Frederick), B., 601. portable and carbon dioxide factors for it (VAN SLYKE; VAN SLYKE and SENDROY), A., 800. Gas burners (RADIATION LTD., YATES, and HOWLETT & Co.), (P.), B., 100; (FRANKFURTER GAS-GES. and SCHUMACHER), (P.), B., 211. atmospheric (Cannon Iron Founders and Hawthorne) (P.), B., 135. for furnaces, control of (KEITH & BLACKMAN Co. and KEITH), (P.), B., 517. Gas circulation apparatus (Stephens), A., 438. glass (Funnell and Hoover), A., 850. Gas fires, combustion products from (INST. GAS ENGINEERS), B., 593. Gas generators (UMPLEBY), (P.), B., 435; (PATENT RETORTS, LTD. and DAVIDSON), (P.), B., 625. laboratory (Jewell), A., 334. Gas industry (BUTTERFIELD), B., 864. Gas liquors, ammoniacal, recovery of by-products from (SHAD-

BOLT and CHEMICAL ENGINEERING & WILTON'S PATENT

FURNACE Co.), (P.), B., 837.

Gas mains, electrolytic corrosion of (Bolzinger), B., 960. underground, deposit on (Marsden), B., 641. Gas measuring apparatus, method of maintaining constant

pressure in (AGDE, SCHMITT, and v. LYNCKER), A., 641. Gas producers (WINKLER), (P.), B., 99; (BENTLEY and APPLEBY;

LASMOLLES), (P.), B., 467. generating supplementary steam for (Rasselsteiner Eisen-

WERKS-GES.), (P.), B., 722. purification of gases from (BRODEUR), (P.), B., 835.

reactions in fuel beds of (HASLAM, MACKIE, and REED; HASLAM, WARD, and MACKIE), B., 624.

Gas purification apparatus (CARDOSO), A., 224; (CARRIER ENGINEERING Co. and GROOM; KÖNIG), (P.), B., 512; (DEUTSCHE ERDÖL and BOMCKE), (P.), B., 516; (TAYLOR

and Shaw), (P.), B., 639; (DE VILBISS Co.), (P.), B., 671. electrical (Drault and Raulot-Lapointe), (P.), B., 530; (SIEMENS-SCHUCKERTWERKE and HAIIN), (P.), B., 530,

607.

discharge electrodes for (SIEMENS-SCHUCKERTWERKE and Heinrich), (P.), B., 914.

insulating compartment in (METALLBANK & METALLURGISCHE Ges.), (P.), B., 391.

Gas purifying materials, evaluation of (ASENDORF), B., 33.

Gas reactions, unimolecular, at low pressure (RICH and RAM-SPERGER), A., 833.

Gas retorts. See under Retorts.

Gas scrubbers (Southgate), A., 537; (Duchemin), (P.), B., 805; (WAGNER and BARTLETT HAYWARD Co.), (P.), B., 959.

Gas separation apparatus (N.V. PHILIPS' GLOEILAMPENFABR.), (P.), B., 288; (DUMARS, BOWEN, and BOWEN-DUMARS POWER CORP.), (P.), B., 356.

Gas testing apparatus (SIEMENS & HALSKE), (P.), B., 645. Gas washing apparatus, centrifugal (HAGER & Co.), (P.), B., 210. Gas works, drainage and effluents from (Jones), B., 290.

purification of effluents from (BACII), B., 4.

disposal of liquor effluents from (PARKER; MONKHOUSE), B., 864.

carbonising ovens for (GILL), B., 672. Portsmouth, carbonising economies of (Carmichael), B., 672. retort settings for (Toogood and Dempster & Sons), (P.), B., 696.

Gasoline from natural gas (Hosmer), (P.), B., 274.

manufacture of (ORMONT and BERNARD ORMONT ASSOCIATES), (P.), B., 163; (Thomas and Sun Oil Co.), (P.), B., 578; (SETZLER and NATIONAL REFINING Co.), (P.), B., 626. apparatus for abstraction of (Brown), (P.), B., 163.

fractionation of (HILL, HENDERSON, and FERRIS), B., 514. apparatus for separation of, from mineral oil (PEW, THOMAS, and SUN Off. Co.), (P.), B., 931.

anti-knock properties of types of, by analysis and engine tests (STEVENS and MARLEY), B., 384.

standard fuel for determination of knock characteristics of (Edgar), B., 514.

fuel, economy of low-boiling distillate of (TANAKA), B., 739. See also Petrol.

Gasometers, anti-corrosion coating for (LECHLER Co. and MEZGER), (P.), B., 549.

Gastric juice, effect of carnosine on secretion of (RASENKOW, Derwies, and Sewerin), A., 171.

effect of the parathyroid hormone on calcium in (Austin and MATTHEWS), A., 1115.

chlorides in, in relation to acidity (MILLER and SMITH), A., 1216. electrometric titration and determination of degree of buffering

of (Schukarev), A., 272. determination of pepsin in (CITRON), A., 372.

Gastropods, glucosamine compounds from egg-sac of (Komori), A., 372.

Gattermann synthesis (Housen and Blaese), A., 143.

Gaucher's disease, analyses of spleen in (Bloom and Kern), A., 587.

Gaultheria shallon (salal), constituents of (LYNN and CHENG), B., 316.

Gein, constitution of (HÉRISSEY and CHEYMOL), A., 136.

Gels, structure of (Thomas and Sibi), A., 935. Gelatin (SCHMIDT), B., 157.

manufacture of (EHRENREICH), (P.), B., 373. properties of (ISAJEVIŎ), B., 825.

optical properties of solutions of (RAMAN), A., 824. action of chemically active rays on (BRINTZINGER and MAURER),

A., 201.

Gelatin, isoelectric point of (GERNGROSS), A., 19.

second isoelectric point of (Gноян), А., 725. diffusion-potential measurements of systems of hydrochloric

acid and (Ferguson and Bacon), A., 935. equivalent weight of (Ferguson and Bacon), A., 935.

molecular weight of, in cresol (HERZOG and COHN), A., 1017.

viscosity of (Briefer and Cohen), B., 231. rapid viscosimeter for (GÜNTHER), B., 662.

adsorption and swelling of (Terzaghi), A., 622. evaluation of, from swelling capacity (STADLINGER), B., 611.

effect of heat on (Frankel), A., 726. hydration of, in solution (KUNITZ), A., 726.

dynamic action of hydrolysates of (RAPPORT), A., 170.

distribution of hydrogen ions between water and (Joukov,

TSCHUKAREV, and BUSHMAKIN), A., 726. conversion of, into an insoluble form (Holden), B., 565.

action of acids on (Lewis and Daniel), A., 622 action of acids and alkalis on (Levene and Bass), A., 1212.

imbibition of, dried as a gel and as a sol (Gortner and Hoff-MAN), A., 414.

effect of organic acids on imbibition of (Isganischev and Pomeranceva), A., 110.

ageing of (Nacorny), A., 309.

effect of colloidal ferric oxide sols on solutions of (WINTGEN and Vöhl), A., 726.

preservation of emulsions of (Sabalitschka), B., 453.

gels, adsorption and osmosis of alkalis and amines by, with and without lecithin (Suganuma), A., 509.

gels and sols, light-scattering capacity and colloidal behaviour of (KRAEMER and DEXTER; KRAEMER), A., 621. sols, salting-out influence of salts on (Buchner), A., 825.

commercial, properties of grades of (Serex and Goodwin), B., 420.

hardened, production of diaphragms of (I. G. FARBENIND.), (P.), B., 498.

isoelectric, swelling of, with water (Northrop; Northrop and Kunitz), A., 825

partially-hydrolysed, as a peptising agent (Ganguly), A., 19. effect of, on growth of bacteria (PLATT), A., 280.

test for photographic qualities of (LUTHER), B., 509.

determination of (LENK), B., 86.

determination of, in ice cream (REMINGTON and MCROBERTS), B., 730.

Gentianase, identity of, with amygdalase or gentiobiasc (Josephson), A., 1111.

Gentianin, and its chloride (KARRER and WIDMER), A., 253. **6-β-Gentiobiosido-β-d-glucose** hendecaacetate (Helferich and

Schäfer), A., 136. Gentisaldehyde. See Benzaldehyde, 2:5-dihydroxy-.

Gentisin, constitution of (Shinoda), A., 1083. isoGentisin. See 7-Methoxyanthrone, 1:3-dihydroxy-.

Geoside. See Gein.

Geranin-G sols, structure viscosity in (LIEPATOV), A., 413. Geraniol, action of sulphuric acid on (Thoms), A., 155.

pentaacetyl derivative β -Geranyl-a-glucoheptoside, and its (Glaser and Zuckermann), A., 650. o-Geranylphenol (Kawai), A., 1183.

3-Geranylpyrocatechol (KAWAI), A., 1183.

Gerbstoff F," effect of, on properties of tannins (STIASNY and ORTH), B., 497.

Germanic acid. See under Germanium.

Germanium (Pugh), A., 31; (ORNDORFF, TABERN, and DENNIS), A., 1211; (DENNIS and LAUBENGAYER), B., 42.

preparation of (TRESSLER and DENNIS), A., 1045. preparation and volatility of (MÜLLER, PIKE, and GRAHAM), A.,

121.

arc spectrum of (McLennan and McLay), A., 389. trebly-ionised, spectrum of (Sмітн), А., 1118. photo-electric threshold of (WELCH), A., 603.

reaction of, with "aluminon" (Corey and Rogers), A., 219. Germanium alloys with aluminium (KROLL), B., 632.

Germanium tetrabromide, vapour pressure of (Brewer and Dennis), A., 818.

dihalides (Brewer and Dennis), A., 1156. dioxide, allotropy of (MÜLLER), A., 298. fused (DENNIS and LAUBENGAYER), B., 42.

Germanic acid, salts (Puch), A., 31.

Germanium organic compounds: Germanium tetrabenzyl, and its derivatives, and tetra-n-butyl (Orndorff, Tabern, and Dennis), A., 1211.

Germanobromoform (Brewer and Dennis), A., 1156. Germicides (Churchman and National Aniline & Chemical Co.), (P.), B., 206; (I. G. FARBENIND.), (P.), B., 350. Gestation, calcium and chlorino in the organism during (VIGNES and Coisset), A., 371. Ginger, pungent principles of (NOMURA and TSURUMI), A., 770. Philippine. See Zingiber officinale. wild. See Asarum caudatum. Gingergrass oil (IMPERIAL INSTITUTE), B., 618. Gismondite from Capo di Bove (CAGLIOTI), A., 1050. Glands, germ, active constituents of (Chem. Fabr. Schering), (P.), B., 619. pulped, phosphoric and lactic acid production in (KRAUSE), A., See also Pituitary and Suprarenal g'ands, Thymus and Thyroid. Glass, structure and constitution of (ROSENHAIN), B., 556. as a fourth state of matter (PARKS and HUFFMAN), A., 300. manufacture of (Soc. Anon. des Manuf. des Glaces & Prod. Chim. St. Gobain, Chauny, & Cirey), (P.), B., 523, 908*. removal of, from furnaces (Severin), (P.), B., 189. annealing of (French; Coad-Pryor), B., 409. lehrs for (Hartford-Empire Co. and Ingle), (P.), B., 253. measurement of softening temperature of (LITTLETON), B., 677. melting experiments with (FIRTH, HODKIN, PARKIN, and TURNER), B., 218. furnace for melting and refining of (Shaw), (P.), B., 750*. kiln for melting of (Crawford and American Dressler Tunnel Kilns), (P.), B., 366. casily fusible (Gen. Electric Co. and Patent-Treuhand-GES. FÜR ELEKTR. GLÜHLAMPEN), (P.), B., 365. stretching of (Soc. Anon. des Manuf. des Glaces & Prod. CHIM. ST. GOBAIN, CHAUNY, & CIREY), (P.), B., 366. devitrification of (Tabata), B., 219, 331. working properties of (TURNER), B., 219. composition of (Taylor and Corning Glass Works), (P.), **B., 109.** determination of (TABATA), B., 749. relation between composition and durability of various kinds of (DIMBLEBY and TURNER; DUDDING and SINGLETON), thermo-phosphorescence of, exposed to radium (NYSWANDER and Lind), A., 91. photo-elastic phenomena in (Preston), B., 409. transparency factors for (SCHACHTSCHABEL), A., 81. prevention of effect of moisture on transparency of (DEMARET), (P.), B., 365. transparent to ultra-violet light, manufacture of (CORNING GLASS WORKS), (P.), B., 141. penetrability of rays through (SUGIE), A., 90. electrolysis of (HURTER), A., 25. electrical conductivity of, at high temperatures (BRYSON), B., conduction process in (HURD, ENGEL, and VERNON), A., 315. crystallisation of (Lecrenier), B., 522. investigations of, by the method of enforced crystallisation (Ponomarev), B., 409. viscous properties of (Stott), B., 219. adsorption of ammonia by (FRANCIS and BURT), A., 1134. adsorption of benzene vapour by (Lenner), A., 198. adsorption of gases by (CRESPI), A., 406. adsorption of ions by (DEVAUX and AUBEL), A., 408. colouring agents in (JACKSON), B., 842. flame-tinting of (British Thomson-Houston Co., Dewey, and Spencer), (P.), B., 908. frosting of (Siemens & English Electric Lamp Co., Oakley, and Aldington), (P.), B., 654. white opacifying media for (KREIDL), (P.), B., 332. protecting the silvering of (Soc. Anon. des Manuf. des Glaces & Prod. Chim. St. Gobain, Chauny, & Cirey), (P.), B., 702. weathering of (TABATA, YEGAMI, and MORIYASU), A., 531. electrolytic decomposition of (Selényi), A., 1145. decomposition of, by water at high temperatures and pressures (Morey and Bowen), B., 654. cause of the white ring on the edge of, melted by coal gas (Offe), manufacture of articles from (HAILWOOD), (P.), B., 76. coating articles with (SCHOOP), (P.), B., 221. spraying of metals on (Soc. Nouvelle de Métallisation),

(P.), B., 411.

Glass, gas-tight joints between metals and (Internat. Gen. ELECTRIC Co. and ALLGEM. ELEKTRIOITÄTS-GES.; N.V. PHILIPS' GLOEILAMPENFABR.), (P.), B., 80; (Jonas and N.V. Philips' Gloeilampenfabr.), (P.), B., 449. arsenic and antimony in (HEINRICHS and SALAQUARDA), B., 189. behaviour of fluorides in (AGDE and KRAUSE), B., 483; (AGDE, Krause, and Lehmann), B., 654. abstraction of sulphur dioxide from flame gases by (FABER), B., for insulating purposes_(Patent-Treuhand-Ges. für elektr. GLÜHLAMPEN), (P.), B., 109. for thermometers, ageing of (Holborn and Otto), B., 140. in foods packed in glass containers (Hancock), B., 502. analysis of (DIMBLEBY), B., 654. measurement of acidity and alkalinity of (MAURI), B., 523. determination of soluble alkali in (FISCHER and TEPOHE), B., 43. determination of sulphur present as sulphide in (HEINRICHS), Glass, ancient (NEUMANN and RUPPRECHT), B., 778. barium, manufacture of (RHENANIA-KUNHEIM VER. CHEM. FABR.), (P.), B., 779. borax, coloured with copper salts, absorption spectra of (LASAREV and LAZAREV), A., 1122. borosilicate (Locke), (P.), B., 523. coloured, infra-red absorption spectra of various (Dreisch), A., colourless Crookes' (Gell, Gould, Hampton, Martin, and Chance Bros. & Co.), (P.), B., 558*. eye-protective (Coblentz and United States), (P.), B., 779. germanium (DENNIS and LAUBENGAYER), B., 42; (DENNIS), (P.), B., 109. ground, lubricants for joints of (BRADLEY and WILSON), B., 75. heat-resisting (Brenner and Fry Glass Co.), (P.), B., 443. industrial, determination of temperatures of commencement of fusion and of tempering of (DAMOUR and THURET), B., 937. load (BLEECKER), (P.), B., 523. durability of (KNAPP), B., 12. lime-soda, prevention of coloration of (Soc. Anon. DES MANUF. DES GLACES & PROD. CHIM. ST. GOBAIN, CHAUNY, & CIREY), (P.), B., 602. Lovibond, spectrophotometric analysis of (Gibson, Harris, and PRIEST), A., 537. low-expansion (Soc. RADIOTEOHNIQUE), (P.), B., 189. manganese, colouring of, in ultra-violet light (Cross), A., 1005. opal (RYDE and YATES), B., 11. measurement of turbidity of (Ewald), B., 252. brittleness of (Gehlhoff and Thomas), B., 877. opaque fusible, production of (PATENT-TREUHAND-GES. FÜR ELEKTR. GLÜHLAMPEN, SKAUPY, SPÄTE, and NACHOD), (P.), B., 779. optical, absorption spectra of (Dreisch), A., 496. changes in (NICOLARDOT), B., 702. potash, production of (I. G. FARBENIND. and CHEM. FABR. GRIESHEIM-ELEKTRON), (P.), B., 557. potash-lead oxide-silica, effect of moisture in batches for (PARKIN and TURNER; FIRTH, HODKIN, PARKIN, and TURNER), B., 11. function of arsenic in (English, Firth, and Turner), B., 410. raw plate, manufacture of (BICHEROUX), (P.), B., 366. ray-filter (Frank), (P.), B., 365. sheet, manufacture of (ERIE GLASS Co.), (P.), B., 76; (HART-FORD-EMPIRE Co.), (P.), B., 76, 141, 221, 333*; (PITTS-BURGH PLATE GLASS Co.), (P.), B., 411. annealing of (Pittsburgh Plate Glass Co.), (P.), B., 109. shock-resistant (INNES), (P.), B., 253. silica (George), B., 483. drawing of pieces of (QUARTZ & SILICE), (P.), B., 750. manufacture of articles from (QUARTZ & SILICE), (P.), B., 557. analysis of (WITHEY), B., 654. sodium-aluminium borosilicate, manufacture of (Sibor S.A. Verreries de Romont), (P.), B., 189. soda-lead oxide-silica, properties of (English, Turner, and WINKS), B., 877. soda-lime-silica, function of arsenic in (FIRTH, HODRIN, TURNER, and WINKS), B., 653. translucent (TAYLOR and CORNING GLASS WORKS), (P), B., 253. unsplinterable (HOPE and ATACK), (P.), B., 842* window, mechanical manufacture of (BABILLE), B., 842. zinc, durability of (BAILLIE), B., 12.

Glass, transparent zirconia (DIMBLEBY, ENGLISH, FIRTH, HODKIN, and Turner), B., 410.

Glass articles, production of, by severance (LIBBEY GLASS MANUF. Co.), (P.), B., 558.

flasks, double-walled, manufacture of (SIEGHEIM), (P.), B., 333. floats, electrostatic charges on, in very dry liquids (Briscoe, Robinson, and Smith), A., 192.

furnaces (United Glass Bottle Manufrs. and Moorshead), (P.), B., 411.

transfer of heat in (McSwiney), B., 219.

electric (RAEDER and ARTIESEL. RAEDERS ELEKTRO-GLASOVN), (P.), B., 109.

recuperative (Teisen), B., 653.

surface doposits in (INSLEY), B., 581.

tank blocks, wearing away of (Ross), B., 581.

American, mullite content of (THOMPSON and VORMELKER),

tubes or rods, drawing of (N.V. PHILIPS' GLOEILAMPENFABR.), (P.), B., 878.

vessels, testing of, for holding drugs according to specifications of the German Pharmacopæia (Kroeber), B., 723.

ware, annealing of (HARTFORD-EMPIRE Co. and MULHOLLAND; HARTFORD-EMPIRE Co.), (P.), B., 221.

colouring of (Burgess and Marietta Manuf. Co.), (P.), B.,

wool as insulator for refrigeration purposes (Bates), B., 411. Glassy substances, ductility, surface tension, and specific heat of (TAMMANN), A., 618.

Glauberite, separation of, from accompanying rock salt gangue (STEIN), (P.), B., 906.

Glauber's salt. See Sodium sulphate.

Glaucosil, adsorption of vapours by (WHITTAKER and FOX), B.,

Glazes, colouring agents in (JACKSON), B., 842.

behaviour of fluorides in (AGDE and KRAUS), B., 702. of low fusibility containing rutile (French and Harder), B., 678.

abstraction of sulphur dioxide from flame gases by (FABER), B.,

ceramic, resistance to abrasion of (HARRISON), B., 749. chromium red (BINNS and CRAIG), B., 749.

Glazing, salt, kilns for (Robertson), (P.), B., 141.

Gliadin, tetrapeptide from (NAKASHIMA), A., 474.

wheat, denaturation of (GOTTENBERG and ALSBERG), A., 825. Globin, partial hydrolysis of (HAUROWITZ), A., 166.

reaction of hæmatin with (HILL and HOLDEN), A., 270. Globulin, pea, alcohol sols of (FODOR and MAYER), A., 512.

serum, preparation of (REINER), A., 1214.

 ψ -Globulin, effect of radium radiation on (Fernau), A., 1212. Globulins from leguminous seeds (Wells, Lewis, and Jones), A.,

Glucides, nomenclature of (BERTRAND), A., 960. Glucofrangulin (Casparis and Maeder), A., 599.

d-a-Glucoheptonamide, and its acetate (ZEMPLÉN and KISS), A.,

a-Glucoheptose, hydrazones and osazones of (Glaser and Zucker-MANN), A., 752.

pentaacetate, β-bromo- (Glaser and Zuckermann), A., 650. d-a-Glucoheptose, degradation of (ZEMPLÉN and KISS), A., 230.

Glucoinvertase (Kuhn and Münch), A., 482.

Gluconic acid, and its disodium salt, bismuthyl compounds of (Browning, Cohen, Gulbransen, Phillis, and Snodgrass), A., 855.

d-Gluconic acid, catalytic reduction of (GLATTFELD and SHAVER), A., 1054.

β-Gluconic acid, derivatives of (OHLE and BEREND), A., 647. Glucononitrile (ZEMPLÉN), A., 232.

Glucophosphoric acid, calcium salts, pyridine content of (Sabetay),

Glucosamine compounds (Komori), A., 372.

Glucosaminomannose, preparation of (FRÄNKEL and JELLINEK), A., 862.

a-Glucosan, compound of glycerol with, and its salts (Picter and Salzmann), A., 450.

Glucose, industrial preparation of, by acid and by enzymic saccharification of starch (MEZZADROLI and NARDELLA), B., 760.

isoelectric point of converter liquors in manufacture of, from starch (PAINE and BADOLLET), B., 638.

d-Glucose. See Dextrose.

a-Glucose, velocity of mutarotation of, in methyl alcohol and water (Worley and Andrews), A., 631.

a- and β -Glucoses, velocities of mutarotation of (Andrews and Worley), A., 736.

pentacectates, optical rotation of (Levene and Bencowitz), A.,

Glucosebenzylamide (Cameron), A., 858.

Glucosides, structure and action of (JACOBS and HOFFMANN), A.,

synthesis of (Robertson), A., 960.

ultra-violet absorption spectra of (BRUSTIER), A., 91. hydrolysis of, before extraction of perfumes (Foray), (P.), B.,

by animal membranes (Loiseleur), A., 935.

cyanogenetio, determination of (BISHOP), A., 1228. heart-specific, activity of (HAUPSTEIN), A., 1219.

nitrogenous (Josephson), A., 1057.

synthetic, of pyrimidine derivatives (HAHN and LAVES), A., 1057.

Glucosides. See also :-

Gcin. Asperuloside. Indican. Helleborein. Aucubin. Nodakenin. Coniferin. Hellchorin. Oleandrin. Cyclamin. Hirsutin. Sinigrin. Fabiatrin.

ζ-Glucosidodiisopropylidenegalactose (FREUDENBERG, Noë, and Knopf), A., 230.

ζ-Glucosidogalactose, and its osazone (FREUDENBERG, Noë, and Knopf), A., 230.

4-Glucosidomannose acetates, halogeno- (Brauns), A., 93.

o-Glucosidosulphamidobenzoic acid, and its sodium salt (Josephson), A., 1058.

3-β-Glucosidoxy-7-hydroxyflavylium chloride (Robertson and Robinson), A., 252.

4'- β -Glucosidoxy-5:7-dihydroxy-3-methoxyflavylium salts (Robertson and Robinson), A., 974. 3-β-Glucosidoxyindole-2-carboxylic acid, and its derivatives

(Robertson), A., 960.

7-Glueosidoxy-3:3':4'-trimethoxyflavylium salts (Robertson and Robinson), A., 252.

Glucosone, antagonism of cyanides and (HYND), A., 1110. action of, on animals (HYND), A., 480.

Glue, manufacture of (EHRENREICH), (P.), B., 373; (LONG), (P.), B., 791.

from casein (PRESTHOLDT), (P), B., 21.

measurement of adhesive strength of (Lanyon), B., 886. and gelatin, rapid viscosimeter for (GÜNTHER), B., 662.

testing of (MEESS), B., 453.

animal water-resistant (Browne and Hrubesky), B., 231. hardened, production of diaphragms of (I. G. FARBENIND.), (P.),

B., 498. liquid, obtaining solidified pearls from (WACHTEL and A.-G. CHEM. PROD. VORM. SCHEIDEMANDEL), (P.), B., 758*.

swollen or liquid animal, production of (v. Rechenberg), (P.),

Glutacondialdehyde, enolic, sodium salt, action of alkali hydroxides on (BAUMGARTEN and GLATZEL), A., 43.

Glutaconic acid, β -chloro-, anhydride of, and β -chloro-a-bromo-(Malachowski and Kaliński), A., 229.

ay-dicyano-, and its sodio-derivative, derivatives of (URUSHI-BARA), A., 345, 1059.

Glutaconic acids (FARMER and RICHARDSON), A., 244. double salts of (AnsLow and King), A., 1175.

Glutamic acid, sodium salt, manufacture of (Woo), (P.), B., 26, 795*.

Glutario acid, second dissociation constant of (Duboux and Frommelt), A., 515.

Glutarimides, $\beta\beta$ -disubstituted, stability of (Siroar), A., 451. Glutaronitrile, action of magnesium benzyl chloride on (BRUY-LANTS and DEWAEL), A., 233.

Glutathione (HUNTER and EAGLES), A., 477, 478; (HOPKINS), A.,

reducing power of (Dixon and Tunnicliffe), A., 961. relative distribution of, in insects (Fink), A., 691.

content of, in tissues and blood of pigeons (RANDOIN and Fabre), A., 905.

in normal and tumour tissues (KENNAWAY and HIEGER), A., 789. in malignant tumours (YAOI and NAKAHARA), A., 274. determination of, colorimetrically (HUNTER and EAGLES), A.,

478.

Glutathione, determination of, and its content in normal and tumour animals (Thompson and Voegtlin; Voegtlin and Thompson), A., 71.

Glutelins (Csonka and Jones), A., 799; (Jones and Csonka;

Csonka), A., 1227.

Gluten, chemical constituents of (Sullivan and Near), B., 154. determination of the weight of, dry (Marion), B., 501. rate of drying of wheat flour, starch, and (FISHER), B., 638. effect of oils and fats on, in bread (Bennion), B., 90.

from New Zealand flour, hydration capacities of (FOSTER), B.,

Gluten, chloro- (VANDEVELDE), A., 1212.

Glutenin, determination of, in wheat flour (BLISH, ABBOTT, and PLATENIUS), B., 590.

Glutin, dissolution and reprecipitation of (Bergmann and Koes-

TER), (P.), B., 949.

Glycæmia during prolonged fasting (Tosi), A., 1217.

Glycæmin, and its antagonism to insulin (Häusler and Loewi; DIETRICH, HÄUSLER, and LOEWI), A., 795. secretion of, by the liver (DIETRICH), A., 1222.

Glyceraldehyde, fermentation of, by yeast (HAEHN and GLAUBITZ), A., 378.

action of oxydoreductase on (LEBEDEV), A., 76, 793.

bimolecular, salts of, and transformation of, into dihydroxyacetone (FISCHER, TAUBE, and BAER), A., 340.

dl-Glyceraldehyde (REEVES), A., 1172.

Glyceraldehydediethylacetal isopropylidenc ether (FISCHER, TAUBE, and BAER), A., 340.

Glyceraldehydemethylcycloacetal (FISCHER, TAUBE, and FELD-MANN), A., 857.

Glyceric acid, and its ethyl ester, bismuthyl compounds of (Brown-ING, COHEN, GULBRANSEN, PHILLIS, and SNODGRASS), A., 855. Glycerides, structure of, and their formation by oxidation of allyl

esters (FAIRBOURNE and FOSTER), A., 131. preparation of, by means of phosphorus pentachloride (New-

MAN, TRIKOJUS, and HARKER), A., 40. saponification of (KOKATNUR), (P.), B., 755.

asymmetric, resolution of (GRÜN and LIMPÄCHER), A., 226.

Glycerin. See Glycerol.

Glycerol (glycerin; $\alpha\beta\gamma$ -trihydroxypropane), production of, from sugar by fermentation (K. and N. LÜDECKE), (P.), B., 921.

recovery of, from splitting of fats (Keutgen), B., 494. from molasses mash (Varnes; Lawrie and Du Pont de

Nemours & Co.), (P.), B., 455.

photoelectric cells containing (GRUMBACH), A., 630. temperature variation of dielectric constant of (VOIGT), A.,

919. tables of density of aqueous mixtures of (Bosart and Snoddy),

B., 377.

content of, in technical glycerin solutions (Prager), B., 821. velocity of esterification of nitrobenzoic acids in (Kailan and Lipkin), A., 1148.

solubility of drugs in (Roborgh), В., 796.

use of, for hygrometers (GRIFFITHS and AWBERY), A., 224. in acetylation of aniline (Sakellarios), A., 235.

chloralide (Böeseken and Blok), A., 646.

nitrate (nitroglycerin), continuous manufacture of (Schmid), B., 798.

analysis of waste acid from manufacture of (WEBB), B., 926. solubility of, in water (LEDBURY and FROST), B., 380. equilibrium of trinitrotolucne with (TAMBURRINI), A., 830. replacement of, in ammonium nitrate explosives (Kast), B.,

testing of stability of powders of (Tonegutti), B., 318. halogenohydrin benzoates (FAIRBOURNE and FOSTER), A., 131. compound of a-glucosan with, and its salts (PICTET and SALZ-MANN), A., 450.

analysis of (Sachs and Riemer), B., 49; (Berth), B., 707. determination of water in (KAMEYAMA and SEMBA), A., 330.

Glycerophosphatase (Kobayashi), A., 377.

Glycerophosphoric acid, dissociation constant of (MEYERHOF and SURANYI), A., 75.

d-a-Glycerophosphoric acid, barium salt, diacetate of (KARRER and Benz), A., 227.

β-Glycerophosphoric acid, sodium salt (GILTA), A., 644. Glycerophosphoric acids (KARRER and BENZ), A., 227.

a- and γ-Glycerophosphorie acids, hydrolysis of, by reagents and acids (Fleury and Suru), A., 116.

Glycidol, polymerisation products of (Levene and Walti), A., 1166.

Glycine, formation of, from chloroacetic acid, and its formula (Sapojnikova), A., 755.

effect of neutral salts on potential of solutions of (KAWAI), A.,

isoelectric points of mixtures of sulphanilic acid and (STEARN),

as a substitute for proteins in diet (WILLIGER), A., 276.

action of, on rabbits in urethane narcosis (GUTTMACHER and Weiss), A., 481.

derivatives, action of aluminium chloride and phosphorus pentachloride on (v. Braun and Wirz), A., 254.

Glycineanilide picrate (Wessely and John), A., 655

Glycinemethylanilide picrate (WESSELY and JOHN), A., 655. Glycogen, effect of insulin on formation of (Pogany), A., 904. in liver and muscle (BARBOUR, CHAILOFF, MACLEOD, and

ORR), A., 594. in frog's muscle after injection of insulin (OLMSTED and HAR-

VEY), A., 701. fermentation of, by maltase-free yeast (Gottschalk), A., 902.

hydrolysis of, by muscle extracts (LOHMANN), A., 75.

acetate, cryoscopic behaviour of (HESS and STAHN), A., 753. Glycol. See Ethylene glycol.

Glycol chloralide (BÖESEKEN and STOK), A., 646. ethers, manufacture of (I. G. FARBENIND, and BADISCHE ANILIN- & SODA-FABRIK), (P.), B., 348; (I. G. FARBENIND.), (P.), B., 571.

as solvents for cellulose esters (CARBIDE & CARBON CHEMICALS CORP. and DAVIDSON), (P.), B., 428.

polyolofine, manufacture of (DAVIDSON and CARBIDE & CARBON CHEMICALS CORP.), (P.), B., 859.

dinitrate as basis of gelatinous blasting explosives (Schmid), B., 926.

Glycols, manufacture of (CARBIDE & CARBON CHEMICALS CORP. and CURME), (P.), B., 733; (UNTIEDT), (P.), B., 923. configuration of (KUHN and REBEL), A., 853.

migration of benzyl radical in (Lévy and Lagrave), A., 872.

acetylenic, reduction of (Salkind), A., 643. action of halogen acids on (SALKIND, SIGOVA, RUBIN, and KRUGLOV), A., 442; (SALKIND and KRUGLOV), A., 443.

optically active, persistence of activity in elimination of water from (McKenzie and Dennier), A., 243.

-Glycols, trisubstituted, stereoisomerism in (TIFFENEAU and Lévy), A., 1184.

Glycollaldehyde, methylcycloacotal of, and bromo- (FISCHER,

TAUBE, and FELDMANN), A., 857.
Glycollic acid, oxidation of, by hydrogen peroxide (Hatcher and Holden), A., 425.

bismuthyl compound of (Browning, Cohen, Gulbransen, Phillis, and Snodgrass), A., 855.

magnesium salts of, and their derivatives (Gomberg and Bachmann), A., 1190.

Glycollic acid, thio-, acidity and isomerism of derivatives of (Behaghel), A., 148.

Glycolysis (Rona and Iwasaki), A., 689. in normal and leucemic blood (FALCON-LESSES), A., 587.

Glycosine (di-iminazolyl), and its salts and derivatives (Lehm-STEDT, BAHN, and ZUMSTEIN), A., 979. Glycosuria. See Diabetes.

Glycuronic acid, preparation of (Quick), A., 990.

fate of, in the organism (HÜRTHLE), A., 374. determination of, spectrophotometrically (Scheff), A., 551.

Glycyl-l-alanyl-l-alanylglycine, ionisation and rotation of (Levene, Bass, Steiger, and Bencowitz), A., 626.

Glycyl-dl-aminoheptoic anhydride (Abderhalden and Rossner),

Glycyl-dl-amino-n-octoic anhydride (Abderhalden and Rossner), A., 576.

Glycyldecarboxyalanine. See Acetethylamide, amino-. 1 - Glycyl - 2:5 - diketo - 3 - methylpiperazine (ABDERHALDEN and

Schwab), A., 676. Glycylglycine, decomposition of, by alkalis (Yaitschnikov),

Glycyl-leucine, phenylurethane of (BERGMANN, MIEKELEY, and

Kann), A., 1202. Glycyl-dl-norleucine anhydride (ABDERHALDEN and ROSSNER),

A., 576. 4-Glycylphenylarsenoacetic acid, and amino-, hydrochloride (PALMER and EDEE), A., 580.

4-Glycylphenyltetra-arsenoacetic acid, and amino- (PALMER and EDEE), A., 580.

Glyoylserine, N-phenylurethane of (BERGMANN, MIEKELEY, and Kann), A., 1202.

Glyoxal, oxidation of, by hydrogen peroxide (HATCHER, HOLDEN, and Toole), A., 425.

osazones (Vorländer, Zeh, and Enderlein), A., 553.

Glyoxals, action of alkali and hydrogen peroxide on (FRIEDEMANN), A., 648.

Glyoxalase, effect of insulin and co-zymase on (Kuhn and HECKSCHER), A., 74.

Glyoxaline (iminazole), magnesium salt of (STRAIN), A., 979. derivatives, formation of, from tripeptide derivatives (GRAN-ACHER and MAHLER), A., 467.

Glyoxalines, 2-thiol-, gold and mercury derivatives of, and their oxidation (Balaban and King), A., 977.

Glyoxaline ring, opening of (Oddo and Mingola), A., 260.

Glyoxaline series, synthesis in (MITTAR and SINHA), A., 577. Glyoxalinediearboxylic acid, dyes from (Tewari and Dutt), A.,

Glyoxime, mono- and di-hydroxy-, salts of (Ponzio and De PAOLINI), A., 135.

Glyoximes, compounds of, with antipyrine and xanthone (Semeria and Bocca), A., 135.

Glyoxylidenedianisidine (Vorländer, Zeh, and Enderlein),

Glyoxylidenediphenetidine (Vorländer, Zeh, and Enderlein), A., 554.

Goats, maternal and feetal blood-gas tensions in (HUGGETT), A., 369.

Gold in sea-water (HABER), A., 439. extraction of (WARNER), (P.), B., 338.

from sea-water (Stoces), (P.), B., 658; (Szilard), (P.),

from dilute solutions (SNELLING), (P.), B., 256.

formation of, from mercury (Bernhardt), A., 5; (Miethe and STAMMREICH), A., 218; (DUHME and LOTZ), A., 530; (SHEL-DON and ESTEY), A., 1004.

arc and spark spectra of (McLennan and Liggett), A., 390. instantaneous spectrum of (NAGAOKA, NUKIYAMA, and FUTA-

gami), A., 911. under-water spark spectrum of (ALLIN and IRETON), A., 801. effect of pressure on conductivity of (Michels, Geels, and VERAART), A., 504.

boiling point of (RUFF and KONSCHAK), A., 102. thermionic melting diagram of (Goetz), A., 805.

precipitation of, from cyanide solution on charcoal (Gross and Scott), B., 936.

rhythmic bands of, in silicic acid gels (Davies and Sivertz), A., 18.

anisotropic (BERKMAN, BÖHM, and ZOCHER), A., 201.

colloidal, production of (GUTBIER, OTTENSTEIN, and LOSSEN), A., 620.

effect of acids on precipitation of (Proscn), A., 110. red, preparation of (Nicol), A., 510; (IWASE), A., 932.

sols, peptisation of, by partially-hydrolysed gelatin (GANGULY), A., 19.

coloured, preparation of, by means of biological fluids (UTZINO), A., 201.

float-, recovery of (PARKER), (P.), B., 115.

surfaces, electrical condition of, during adsorption of gases (Finch and Stimson), A., 1135.

and its alloys, influence of bismuth, lead, tin, etc. on (Nowack),

device for saving (CROSBY), (P.), B., 224.

Gold alloys (Western Electric Norsk), (P.), B., 705; (General PLATE Co. and DAVIGNON), (P.), B., 785.

with copper (Tammann and Heusler), A., 196.

crystal structure and conductivity of (Johansson and LINDE), A., 400.

with copper and silver, recrystallisation and annealing of (Sterner-Rainer), B., 559.

with nickel and palladium (Fraenkel and Stern), A., 1030. with tin, atomic structure of (Preston and Owen), A., 815.

Gold rubidium triple iodides (BURKSER, RUBLOV, and SCHARNOVsky), A., 1155.

thiosulphates, complex (Andersen, Siesbye, and Weitzmann), (P.), B., 573.

production of (Keiding and Keiding), (P.), B., 892. sodium thiosulphate (GJALDBEK), A., 324; (BROWN), A., 430. production of stable, sterilisable, complex solutions of (I. G. FARBENIND.), (P.), B., 956*.

Gold sodium thiosulphates, complex (Cassella & Co.), (P.), B., 252. zincide, atomic structure of (Owen and Preston), A., 96. Auric chloride, spectrum of (Ferouson), A., 917.

oxide, preparation and analysis of (Roseveare and Buehrer), A., 636.

free energy of (BUEHRER and ROSEVEARE), A., 941. Aurous oxide, attempted preparation of (BUEHRER, WARTMAN,

and Nugent), A., 629.

Gold organic compounds with phosphinous acids (I. G. FARBEN-IND.), (P.), B., 797. Gold separation :-

separation of, from ferric oxide (WICHERS), A., 224.

Gold electrodes. See under Electrodes.

Gold foil, beaten, arrangement of micro-crystals in (TANAKA), A., 613.

Gold plate, rolled-, assay of (GILCHRIST), B., 656.

Gold-zinc slimes, treatment of (MEYER), (P.), B., 682.

Goose. See Anser anser.

Grading of solids contained in liquids (Soc. Anon. DES MANUF. DES GLACES & PROD. CHIM. ST. GOBAIN, CHAUNY, & CIREY), (P.), B., 689.

Grain, treatment of (WESENER), (P.), B., 236.

drying of (OWEN), (P.), B., 887.

fumigation of (MOFFETT and AMER. CYANAMID Co.), (P.),

steeped, influence of water containing sulphuric acid on germination of (Dehnicke), B., 56.

Granulation of dry material (BRYANT), (P.), B., 383.

Granulobacter pectinovorum, growth of (Omelianski and Kononov), B., 57.

Grapes, ripening of (COPEMAN and FRATER), A., 908.

distribution of flavour in, and their juices (SALE and WILSON), pigments of (Anderson and Nabenhauer), A., 61.

and their products, vitamin content of (MERJANIAN), B., 89. residues, preparation of potassium tartrate from (Spedicato), (P.), B., 538.

physiological studies of (Dr VILLIERS), A., 597.

attacked by Lepidoptera cochylis and eudemis, wine from (FERRÉ), B., 152.

Isabella, pigment from, and its salts (Anderson and Naben-HAUER), A., 61.

Grape-fruit, constituents of (WILLIMOTT and WOKES), B., 615. vitamins in rind of (WILLIMOTT and WOKES), A., 79.

Grape juice, concentrated, manufacture of (Soc. ÉTABL. BARBET), (P.), B., 856.

Grape seed oil (Carrière and Campredon), B., 562; (Mar-GAILLAN), B., 706, 945. manufacture of (BONNET), B., 944.

from France and Algiers, physical and chemical properties of (André and Canal), B., 944.

Graphite, structure of (RUFF, MAUTNER, and EBERT), A., 1138.

crude, refining of (DUMOND), (P.), B., 182*. apparatus for purification of, by froth flotation (GALLOIS),

(P.), B., 866. thermal expansion of (HIDNERT and SWEENEY), A., 614.

determination of, in cast iron (BURFORD and BAADER), B., 111. Graphite ores, Canadian concentration of (PARSONS), B., 187. Graphitic material, production of (Bleecker), (P.), B., 352.

Grapsus nankin (crab), constituents of muscle of (Lin), A., 586. Grass, antirachitic factor in (Völtz and Kirsch), A., 904.

green, vitamin-C content of (BROUWER), A., 905.

Napier (Friedeman), B., 918. Grate for solid fuel (MARTIN), (P.), B., 549.

Greases, manufacture of (McKee and Sun Oil Co.), (P.), B., 323,

extraction of (L. J. and A. SIMON and SIMON BROS.), (P.),

removal of, from metals (Soc. Anon. ÉTABL. LENDORMY), (P.), B., 819. solid emulsified (HEITMANN), (P.), B., 549*.

Greensand, potash from (WHITTAKER and Fox), B., 408.

Grignard reagents, constitution of (Ivanov), A., 961; (Grig-NARD), A., 962; (KIERZEK), A., 1177.

preparation of (Hufferd), A., 865. effect of solvents on yields of (GILMAN and McCRACKEN),

A., 865. luminescence of, in electric and magnetic fields (DUFFORD, NIGHTINGALE, and GADDUM), A., 918. electrolysis of (GADDUM and FRENCH), A., 756.

Grignard reagents, coupling action of (Fuson), A., 46. reducing action of (STAS), A., 46.

action of, on alkylbarbituric acids (Dox), A., 1087.

on amino-acids (Bettzieche, Menger, and Wolf), A., 45; BETTZIECHE), A., 137; (BETTZIECHE and MENGER),

on carbonyl azides (Bertho), A., 679.

on earboxylic esters (Boyd and Hatt), A., 558.

on substituted coumarins (Heilbron and Hill). A., 1082.

in indole series (Majima and Hoshino), A., 1098. on aromatic thicketones (Schönberg), A., 667.

Grinding of finely-divided material (GARDNER), (P.), B., 287. fine, theory of (MARTIN and WATSON; MARTIN, BOWES, COLE-MAN, and LITTLEWOOD), B., 543; (MARTIN; MARTIN, TURNER,

MAR, and LITTLEWOOD, B., 945; (SLARTIN; MARTIN, TURNER, and LINSTEAD; MARTIN, WATSON, and BOWES), B., 623.

Grinding apparatus (CROWE), (P.), B., 799; (RAMSAY and MAYHEW, RAMSAY & Co.), (P.), B., 831.

Grinding machines (HAMEY), (P.), B., 465*; (DENHAM and SIMON, LTD.; GARDNER), (P.), B., 689.

suction and filter apparatus for removal of dust from (Pochin and Pochin), (P.) R. 806.

and Pochin, (P.), B., 896.
Grinding stones. See under Stones.
Groats, production of (Bartmann), (P.), B., 236.

Ground-nut oil, composition of (HILDITCH and VIDYARTHI),

Growth, energy of (TERROINE and BONNET; TERROINE, BONNET, and Duquénois), A., 797.

effect of ultra-violet light on (LEIGH-CLARE), A., 382.

effect of diet on (HARTWELL), A., 1107.

influence of quantity of food on (v. Hoesslin), A., 989.

influence of gland extracts on (TANGL), A., 485.

Grünerite, amphibole, from region of Lake Superior (RICHARZ), A., 850.

Guaiacol, manufacture of (Gubelmann, Weiland, Stallmann, and NEWPORT Co.), (P.), B., 460.

equilibrium in binary systems containing (Pushin and Vaić), A., 311.

chlorobenzyl ethers, nitration of (OXFORD and ROBINSON), A., 1065.

Guaiacolsulphonic acid, potassium salt, use of, in detection of methyl alcohol (BAUER; MATTHES), A., 66.
Guaiaconic acid, light sensitivity of (SCHWECKENDIEK), A., 1042.

Guanidine, action of, with nucleic acid (WHITE), A., 548.

derivatives, action of arginase on (Poller), A., 992. action of sodium hypobromite on (CORDIER), A., 138. sulphoxymolybdates (Fernandes and Palazzo), A., 636. determination of, and its occurrence in urine in tetany (KUEN),

A., 988. Guanidine, nitro-, transformations of (DAVIS and ABRAMS),

Guanidines, hydrolysis of (Lecher and Demmler), A., 755. disubstituted, manufacture of (Scott and Du Pont de Nemours

& Co.), (P.), B., 619. peralkylated (Lecher, Graf, Gnädinger, Bolz, and Chudoba),

Guanidines, amino-, production of salts of (HEYN), (P.), B., 619.

Guanine nucleotide (Buell and Perkins), A., 581.

Guanylmethylcarbamide, and its hydrochloride and copper derivative (TRAUBE, KEGEL, and SCHULZ), A., 46.

Guinea-pigs, sulphur and phosphorus content of brain of (MAY), A., 986.

Gum, kauri, physical properties of (BURBIDGE and MACKY),

laxative chewing (HEALTH PRODUCTS CORP. and COURT), (P.), B., 268.

Gums, constitution and determination of, in grape wines and musts (Semichon and Flanzy), B., 792.

Gum acacia, effect of binary electrolytes on viscosity of solutions of (Spencer and Drummond), A., 934.

Gum accroides, neutral resin from (Prister and Rohm & Haas Co.), (P.), B., 148.

Guttapercha (GEIGER), A., 870. structure of (MIEDEL), B., 789.

treatment of (SMITH and GOODYEAR TIRE & RUBBER Co.), (P.), B., 229.

improvement of (Felten & Guilleaume Carlswerk), (P.), B., 824.

crude, manufacture of solid resin from semi-fluid resinous matter extracted from (CRAVEN and YORKSHIRE DYEWARE & CHEMICAL Co.), (P.), B., 948.

Guttapercha, determination of hydrocarbons in (KEMP), B., 372. See also Rubber.

Gypsophila saponin (van der Haar), A., 341.

Gypsum, dehydration of (McCormack), A., 120; (Stumper), B., 580, 676.

See also Calcium sulphate.

Gypsum products (PARKHURST and FEDERAL GYPSUM PRODUCTS Co.), (P.), B., 367.

H.

Hadromal (Hoffmeister), A., 1189.

Hæmateric acid, catalytic hydrogenation of (PAPENDIECK), A.,

Hæmatin, reduction of (HILL and HOLDEN), A., 689. reaction of globin with (HILL and HOLDEN), A., 270. relation of, to homochromogen (HAUROWITZ), A., 686. a-Hæmatin (Schumm and Mertens), A., 685.

and its related porphyrins (SCHUMM), A., 798, 886.

Hæmatoporphyria from administration of lead (Liebic), A., 1106. in rabbits, nature of serum-globulin in (Komatsu), A., 1106.

Hæmatoporphyrin (SOHUMM), A., 886.

formation of bromobromohydroxyethyltetramethylporphindipropionic acid from, and its perbromide (FISCHER and Kotter), A., 1094.

changes in plasma-proteins of blood containing (Komatsu), A., 1216.

hæmolysis by irradiated (FABRE and SIMONNET), A., 477. determination of, in urine and fæces (Liebia), A., 1106.

Hæmatoporphyrindimethyl ether, chlorobromo-, and its salts and dimethyl ester (Küster and Schlaver), A., 980.

Hæmatoxylin, and its derivatives, synthesis of (Perkin, Rây, and Robinson), A., 1084.

Hæmin (FISCHER and LINDNER), A., 261.

constitution of (KUSTER), A., 679; (KUSTER and SCHLAYER), A., 980.

relation of, to hæmochromogen and porphyrin (HAUROWITZ), A., 1100.

catalytic hydrogenation of (Kuhn, Braun, Seyffert, and Furter), A., 784; (Papendieck), A., 1099.

catalytic decomposition of hydrogen peroxide by (v. Euler and Josephson), A., 837.

action of sodium hydroxide on (KÜSTER), A., 784.

and its derivatives, determination of active hydrogen in (FISCHER and WALTER), A., 1099.

Hæmochromogen, and its compound with carbon monoxide, structure of (HILL), A., 65.

relation of, to hæmatin (HAUROWITZ), A., 686. relation of, to hæmin (HAUROWITZ), A., 1100.

Hæmocyanin (Stedman and Stedman), A., 689. oxidation of (Hochen), A., 270.

Hæmoglobin, coagulation of, in presence of alcohols (JIRGENSONS), A., 512, 624.

denaturation of (Lewis), A., 270; (Wu and Lin), A., 688. sulphur compounds of (Dalla Volta), A., 892.

muscle, as a source of bile pigments (WHIPPLE and ROBSCHEIT-

ROBBINS), A., 69. determination of, colorimetrically (Kennedy), A., 67.

determination of, spectrophotometrically (Davis and Sheard),

Hæmoglobin, chloro- (Datla Volta), A., 892. Hæmolysin, measurement of (Coulter), A., 477. associated with euglobin (COULTER), A., 477.

Hæmolysis, measurement of percentage (Ponder), A., 585. kinetics of (Ponder), A., 271.

reversible (Fukushima), A., 168.

Hemopyrrolecarboxylie acid, syntheses of (FISCHER and TREIBS). A., 365.

Hafnium, production of, from its ores (SIEMENS & HALSKE and FETRENHEUER), (P.), B., 448.

X-ray analysis of (KIMURA), A., 1013. spectrum of (Petersen), A., 285.

atomic volume of (VAN ARKEL), A., 1131.

precipitation of, on incandescent bodies (N.V. Philips' Gloei-LAMPENFABR.), (P.), B., 16.

Hainium compounds, complex, difference of stability of zirconium compounds and (DE BOER), A., 949.

Hamium phosphate, treatment of (DE BOER and N.V. PHILIPS' GLOEILAMPENFABR.), (P.), B., 365*.

Hafnium separation :--

separation of zirconium and (DE BOER; DE BOER and KOETS), A., 954; (N.V. Philips' Gloeilampenfabr.), (P.), B., 330, 482; (VAN ARKEL, DE BOER, and N.V. PHILIPS' GLOEILAMPENFABR.), (P.), B., 331*, 749*; (COSTER, HEVESY, and N.V. PHILIPS' GLOEILAMPENFABR.), (P.), B., 370.

Hailstones, formation of (BERZ), A., 411.

Hair, preparation of, for felting (I. G. FARBENIND. and FARBW. VORM. MEISTER, LUCIUS, & BRÜNING), (P.), B., 599. compositions for colouring (HUFFMAN), (P.), B., 139. stimulant for (WELL and NAGEL), (P.), B., 173.

cholesterol content of (ECKSTEIN), A., 691. cystine content of (WILSON and LEWIS), A., 787.

Hair-springs, manufacture and properties of (Moore and Beckin-SALE), B., 254.

Halides, change of volume in formation of (DEL FRESNO), A., 294. compounds of, with halogens (BILTZ and JEEP), A., 627. organic, azeotropic mixtures of alcohols with (Lecat), A., 405. solid, electrical conductivity of (FRIEDERICH and MEYER), A.,

true and pseudo- (Hantzsch and Carlsonn), A., 327.

determination of thiocyanates and (KOLTHOFF and VAN BERK), A., 434.

Halogens, infra-red absorption spectra of, in organic compounds (ELLIS), A., 1006.

potentials of, in ammonia (Fredenhagen), A., 936.

influence of water on combination of hydrogen with (Boden-STEIN and JOST), A., 737.

compounds of, with halides (BILTZ and JEEP), A., 627.

activity of, in organic compounds (Tronov; Tronov and Kruger), A., 957.

lability of, in organic compounds (GRAHAM, MACBETH, and ORR), A., 575.

reciprocal exchange of hydroxyl groups and (Borsche and FESKE), A., 239.

determination of, in organic compounds (Récsei), A., 35, 368; (Lustic), A., 891.

Halogen acids, conductivity and molecular weight of, in nitrobenzene (Hlasko and Michalski), A., 204.

Halogen compounds, effect of energy of activation on velocity of reaction in (Peacock), A., 426.

Halogen hydrides, rotation spectra of (CZERNY), A., 917.

fog production in neutralisation of alkalis by (Askew), A., 620. Halogen organic compounds, reduction of (Brand, Wendel, and HORN), A., 549.

action of alkali sulphites on (EVANS, MABBOTT, and TURNER), A., 644.

Halogenation (VARMA and KULKARNI; VARMA and PANICKAR),

Halogenohydrins, manufacture of (Long, Willson, and Wheeler), (P.), B., 347.

Halogenonitro-compounds, reactions of piperidine with (LE FÈVEE and Turner), A., 653.

Halophytes, chemistry of (Zellner), A., 387.

"Hard salt," dissolution and displacement of sylvinite and rocksalt from (Keitel), B., 478.

Hardness, measurement of, by the pendulum (LE ROLLAND), B., 46.

Hardness, testing of (WILSON), (P.), B., 863.

diamond cono indentation tests of (HANKINS), B., 46.

Hertzian, apparatus for measuring (ESNAULT-PELTERIE), B.,

Rockwell, measurement of (Nicollet), B., 46. Rockwell and Brinell, comparison between (BRUMFIELD), B.,

46; (Petrenko), B., 582. of water, inhibition of substances causing (ULLMANN), (P.), B.,

Hard-pan, possible rôle of iron-depositing bacteria in formation of (MUDGE), B., 728.

Hare skins, treatment of (Delahaye, Racket & Cie.), (P.), B., 791. Harmalan (Manske, Perkin, and Robinson), A., 265.

Harmaline, and bromo-, and its hydriodide (HASENFRATZ), A., 682. synthesis of (Manske, Perkin, and Robinson), A., 265.

n- and iso-Harmalol, bromo-, salts of (HASENFRATZ), A., 682. Harmine (Manske, Perkin, and Robinson), A., 265.

n- and apo-Harmines, mono- and di-bromo-, and their salts (HASENFRATZ), A., 682.

Harmol, bromo-, salts of (HASENFRATZ), A., 682.

Hartmanella hyalina, inoculation of soils with (Skinner), B., 856. Hats, dyeing of. See under Dyeing.

Hausmann numbers of proteins, micro-determination (THIMANN), A., 66.

Hauyne, X-ray structure of (JAEGER, WESTENBRINK, and VAN Melle), A., 715.

Hay, bog (Evans), B., 951. Heart, hydrogen carbonate and chloride in serum in failure of (Peters, Bulger, and Eisenman), A., 587.

dog's, variation of, in weight and composition under pathological conditions (JUNKERSDORF and HANISCH), A., 790. mammalian, influence of insulin on (VISSCHER and MULLER), A.,

shark's, action of alkaline-earth chlorides on (Kisch), A., 900. Heat, Nernst's theorem of (Schidlof), A., 207; (VAN LAAR), A.,

utilisation of, from furnace discharges (Babcock & Wilcox Co.), (P.), B., 512

coverings retaining (GRIMASON and KEASBEY-MATTISON, LTD.),

(P.), B., 512. exchange of, at absolute zero (Verschaffelt), A., 733.

apparatus for transfer of (GAS RESEARCH CO.; SMITH and GAS Research Co.), (P.), B., 240.

alignment charts for transfer of (ROULLEUX), B., 319.

method of transforming, applicable to refrigeration (DAVEN-PORT), (P.), B., 688.

transmission of, by radiation from non-luminous gases (Hor-TEL), B., 735.

molecular, of gases, from equilibrium constants (Shilling), A., 12.

at low temperatures (Perrakis), A., 403. specific, determination of (Roth), A., 733.

at high temperatures (KLINKHARDT), A., 100, 1018.

tables of (Beattie), A., 101.

relation between heat of fusion and (LICHTENECKER), A., 818. relation between thermal expansion, velocity of sound, and, of liquids (SREENWASAIAH), A., 818.

at constant pressure and constant volume in relation to properties of liquids (HERZ), A., 1018.

of highly cooled non-condensed phase (Perrakis), A., 101; (De Kolosovski), A., 301; (Verschaffelt), A., 403. of gases, measurement of (TRAUTZ), A., 817.

at high temperatures and pressures (Burlot), A., 301.

of liquids, determination of (PACKARD and CUTLER-HAMMER Manuf. Co.), (P.), B., 160.

of metals (UMINO), A., 193. of solids at liquid helium temperatures (Keesom and Andrews), A., 1131.

Heat accumulators, admission of steam to (SIEMENS-SCHUCKERT-WERKE), (P.), B., 66. Heat exchangers (GRISCOM-RUSSELL Co. and PRICE), (P.), B.,

63; (HIGGINS), (P.), B., 175; (MORGAN; PRICE and GRIS-COM-RUSSELL CO.), (P.), B., 207; (GUGGENHEIM, MACGOWAN, SMITH, and BURDICK; CARBORUNDUM CO.; BABCOCK & WILCOX, HALL-BROWN, and JONES), (P.), B., 320; (Mas-CHINENFABR. ING. SIMMON), (P.), B., 434; (Young and METROPOLITAN-VICKERS ELECTRICAL Co.), (P.), B., 688; (MUNDAY), (P.), B., 736*; (MUCHKA; STURTEVANT Co. and DERRY), (P.), B., 897; (PFAUDLER Co., NICHOLS, and TODD), (P.), B., 927; (SANDBERG), (P.), B., 959.

scaling device for elements of (ZIMMERMANN & Co., LUDWIGS-HAFEN A./RHEIN MASCHINEN- & APPARATEBAU), (P.), B., 863.

regenerative (E. H. and E. P. KIGNELL), (P.), B., 95. tubular (HILLIER), (P.), B., 640.

Heat insulation. See under Insulation. Heat of adsorption of gases (CASSEL), A., 314. by charcoal (KEYES and MARSHALL), A., 207.

on poisoned and heat-treated catalysts (KISTIAKOWSKY, FLOSDORF, and TAYLOR), A., 1021.

Heat of combustion of standard substances and of isomerides

(Keffler and Guthrie), A., 193.

Heat of crystallisation of homologous series (GARNER and RUSH-BROOKE), A., 718.

Heat of dilution of aqueous solutions (HARRISON and PERMAN), A., 207.

of electrolyte solutions (Grosz), A., 940.

of salts at small concentrations (Nernst and Orthmann), A.,

Heat of evaporation, latent, and surface tension (Herz), A., 506. and internal pressure of liquids (STACHORSKY), A., 506. Heat of formation of surface layers of solutions (REHBINDER), A.

193.

Heat of fusion, relation between specific heat and (LICHTENECKER), A., 818. latent (v. Rasohevsky), A., 101.

of metals (UMINO), A., 193.

Heat of ionisation in methyl alcohol (Wolfenden, Jackson, and HARTLEY), A., 733.

Heat of mixture of partially miscible substances (Mondain-Monval), A., 23.

Heat of solution and dilution of salts (Lange and Fuoss), A., 419; (BERENGER-CALVERT), A., 629; (LANGE and EICHLER; HOLLUTA and WERNER), A., 1143.

Heat of vaporisation and capillary constant (WALDEN), A., 194. and surface tension (Verschaffelt and De Block), A., 108. of condensed gases (Eucken and Donath), A., 101.

of liquids (DE Kolosovski), A., 302. latent (HERZ; DE HEMPTINNE), A., 193.

at absolute zero (van Laar), A., 403. of liquids and solutions (VREVSKI), A., 733.

Heat treatment of materials (PRENTICE and PEHRSON), (P.), B., 351.

Heating of granular materials (I. G. FARBENIND.), (P.), B., 400. of materials (LEEDS & NORTHRUP Co. and HARSCH), (P.), B., 242*.

by oil circulation (MANUF. MACHINES AUXILIARES L'ELECTRI-

CITÉ & L'IND.), (P.), B., 321.

Heating apparatus (FIELD and CHEMICAL MACHINERY CORP.), (P.), B., 287; (CANO), (P.), B., 736*; (HADAMOVSKY), (P.), B., 832.

for gases (Fahrenwald and Smith), (P.), B., 801.

catalytic (Soc. Lyonnaise des Réchauds Catalytiques), (P.), B., 929.

Heavy spar, production of (EBERS), (P.), B., 254.

Hedera helix, translocation of potassium before and during death of leaves of (Sabalitschka and Wiese), B., 55.

Hederagenin, and its menthyl ester sulphite (VAN DER HAAR), A., 248.

Helianthrone, 3:4:3':4'-tetrahydroxy-. See mesoBenzdianthrone, 3:4:3':4'-tetrahydroxy-

Helium, structure of (DE), A., 500.

atomic structure of (SLATER), A., 808. in Canada (Elworthy), B., 554.

occurrence of, in vacuum tubes (Lawson), A., 104.

in gases from petroleum wells (BUTESCU and ATANASIU), A., 129; B., 580.

spectrum of (Leo), A., 82; (ORNSTEIN and BOUWMAN), A., 801; (Suoiura), A., 909.

appearance of lines in spectrum of (Beams and Rhodes), A., 83. are spectrum of (Houston), A., 489.

band spectrum of, at low temperatures (McLennan, Smith, and LEA), A., 5.

nuclear vibration in band spectrum of (Weizel and Fücht-BAUER), A., 909.

ultra-violet band spectrum of (SOMMER), A., 607.

Stark effect in (Foster), A., 179; (Dewey), A., 180. rays of (Pérard), A., 285.

absorption coefficient of, for its own radiation (Wolf and WEATHERBY), A., 177.

potential gradient for, in the positive column (Günther-Schulze), A., 709.

calculation of ionisation potential of (Kellner), A., 912.

scattering of a-particles by (RUTHERFORD and CHADWICK), A., scattering of electrons in (DYMOND), A., 392.

dielectric constant of, in a magnetic field (Weatherby and Wolf), A., 1126.

dielectric constant and diamagnetism of (VAN VLECK), A., 188. density and heat of evaporation of (VAN LAAR), A., 301. melting point of (TAMMANN), A., 193.

at low temperatures (van Laar), A., 718. molecular model for (v. Wišniewski), A., 921.

effective cross-section of, against slow electrons (Brüche, LILIENTHAL, and SCHRÖDTER), A., 1119.

metastable state of (Dorgelo and Washington), A., 490. solidification of (Verschaffelt), A., 12.

liquid, latent and specific heats of vaporisation of (DANA and Onnes), A., 101.

liquefier and circulator for (Onnes), A., 301.

Helium, conversion of hydrogen into (Paneth, Peters, and Günther), A., 429; (Jauncey and Hughes), A., 1004. gaseous compound of, with radium (Morrison), A., 806.

Helleborein (Keller and Schöbel), A., 799.

Helleborin (Keller and Schöbel), A., 799.

Helleborus, alkaloids and glucosides from species of (Keller and Schöbel), A., 799.

Helvellic acid, detection of, in fungi (AUFRECHT), B., 267.

Hemicellulose (HEUSER), A., 545.

Hemifasus tuba, composition of spawn from (KOMORI), A., 169. Hemp, manufacture of fibres from (FABRICORD, INC.), (P.), B.,

474; (V. EHRENTHAL and Scholz), (P.), B., 552. production of fibrous material from stalks of (Fabricord, Inc.

TRUSTEE), (P.), B., 362. Manila, action of moulds on fibres of (SERRANO), B., 292.

Hens, blood of. See under Blood.

urine of. See under Urine.

Heneicosane (BACHMANN and CLARKE), A., 962.

Hentriacontane, oo-chloronitroso- (RHEINBOLDT and DEWALD), A., 852.

6-β-Hepta-acetylcellobiosidoacetobromoglucose (Helfericu and Schäfer), A., 136.

cycloHeptadecane, bromo- (Ruzicka, Schinz, and Seidel), A.,

cycloHeptadecanol. See Dihydrocivetol.

cycloHeptadecene. See Civetane. $\Delta\theta$ -cycloHeptadecenol. See Civetol.

 $\Delta^{\alpha\beta}$ -Heptadiene (Bours), A., 1051.

Heptaldehyde, a-bromo- (KIRRMANN), A., 340, 442, 751.

and its acetal, and a-hydroxy- (Dworzak and PrifferLing),

Heptaldehydediisobutylacetal (Sigmund and Marchart), A., 1054. n-Heptaldehydedimethylacetal (KIRRMANN), A., 442. Heptaldehydedi-n-propylacetal (Sigmund and Marchart), A.,

1054. 2:4:6:2':4':2":4"-Heptamethoxytriphenylcarbinol (LUND), A., 661. Heptane, aa-dibromo-, and aa β -tribromo- (KIRRMANN), A., 442.

aβy-tri- and aββy-tetra-bromo- (Bouis), A., 1051. δδ-chloronitro-, and Dewald), A., 852. δδ-chloronitroso- (Rheinboldt and

aa-chloronitroso- (RHEINBOLDT and DEWALD), A., 229. aδ-dihydroxy-, and its derivatives (BRAY and ADAMS), A., 973.

Heptenes, a-mono-, and βy-di-bromo- (Bouis), A., 1051. cycloHeptene oxide, action of magnesium methyl iodide on (Godснот and Bedos), А., 233.

 $\Delta\beta$ -Hepten-a-ol (Bouls), A., 1051.

Heptosides (GLASER and ZUCKERMANN), A., 650.

cycloHeptylacetic acids, dibromo- (Kon and Max), A., 853. n-Heptylaminobenzthiazole, and its dibromido hydrobromide

(Hunter), A., 263. n-Heptylaminobenzthiazole, 5-bromo-, and its dibromide (Hunter

and SOYKA), A., 263.

Heptylaminoisohexoethylamide, and its hydrochloride (v. Braun and Münch), A., 345

2-n-Heptylamino- β -naphthathiazole, and its tetradecabromide (Dyson, Hunter, and Soyka), A., 264.

3-n-Heptylindole (Korczyński, Brydovna, and Kierzek), A., 255. isoHeptylmalonic acid, ethyl hydrogen ester (Kon and May), A.,

Herapathite, absorption spectrum and pleochroism of (Bovis), A.,

detection of, microchemically (VAN ZIJP), B., 315.

Herbs, Austrian, constituents of (Zellner, Falkowsky, Spitzer, and TASCHNER), A., 598.

Herring meal, amino-acids of (Shita and Yanagigawa), B., 590. Herschellite from Acicastello (CAGLIOTI), A., 1050.

Heterobetulin, and its salts (DISCHENDORFER and GRILLMAYER), A., 249.

Heterocyclic compounds, formation of (SEN and Bose), A., 774; (P. C. and S. C. GUHA), A., 982.

manufacture of (I. G. FARBENIND. and FARBW. VORM. MEISTER, Lucius, & Brüning), (P.), B., 550, 903.

influence of groups and associated rings on stability of (SIRCAR), A., 756.

comparison of benzene with (FIESER and AMES), A., 1198. five-membered, absorption spectra of (Menczel), A., 496.

fate of, in the body (Novello), A., 899. Heteropoly-compounds, crystallography of (Rodolico), A., 97.

Heterotri-acids, and their salts (CANNERI), A., 220. Heuchera Americana, tannin of (J. C. and B. L. Peacock), B., 790. Herea. See Rubber trees.

Herea brasiliensis, determination of actual and potential alkalinity

of latex from (HAUSER and SCHOLZ), B., 947.

Hexa-acetostannic acid, sodium salt (ELÖD and KOLBACH), A., 958. Hexa-acetylbiosan (HESS and FRIESE), A., 44.

d-a-Hexa-acetylglucoheptononitrile (ZEMPLÉN and Kiss), A., 230.

Hexabenzyldistannane (Law), A., 166. Hexabromostannates. See under Tin.

Hexachlororhodiates. See under Rhodium.

Δζ-Hexadecenoic acid, o-hydroxy-. See Ambrettolic acid.

Hexadecoic acid, o-mono- and di-hydroxy- (Kerschbaum), A., 541. 5-Hexadecyl-ψ-thiohydantoin (NICOLET and BATE), A., 977.

Δ°β-Hexadiene (Bours), A., 1051.

 $\Delta \beta \delta$ -Hexadiene, $\alpha \zeta$ -dibromo- (Prévost), A., 337.

cycloHexadieneglutaric acid (KENDALL and OSTERBERG), A., 973. Hexaethylguanidinium salts (Lecher, Graf, Gnädinger, Bolz,

and Chudoba), A., 863.

Hexaformatostannic acid, salts of (ELÖD and KOLBACH), A., 958. Hexahydrobenzoic acid, ethylamide, and a-chloro-, and its derivatives (v. Braun, Jostes, and Munch), A., 548.

Hexahydrobenzoylresorcinol (Talbot and Adams), A., 968.

Hexahydrobenzylideneaniline (Skita, Wulff, Fehr, Winter-HALDER, and MEETZ), A., 157.

4-Hexahydrobenzylresorcinol (Talbot and Adams), A., 968.

Hexahydrocarbazole, 9-nitroso- (Manjunath), A., 978.

Hexahydrocarbazoles, amino-, 6-bromo-, and o-nitro- (Gurney and PLANT), A., 774.

ar-Hexahydrocinnolo-1:2:3-pyrazolone-1-carboxylic acid, methyl ester (DIELS and ALDER), A., 160.

Hexahydrocyanurin, 2:4-dithio-, and its salts and derivatives (DIELS and LICHTE), A., 162.

Hexahydrodiphenyl-o-carboxylic acids, derivatives of (RANEDO and Léon), A., 148.

trans-Hexahydrohomophthalimide (SIRCAR), A., 756.

Hexahydrohydrindene, and its derivatives (Hückel and Fried-RICH), A., 239.

trans-Hexahydrohydrindene and camphor, comparison between (Hückel), A., 773.

cis- and trans-Hexahydro-β-hydrindols, and their hydrogen phthalates and phenylurethanes (Hückel and Friedrich), A., 239. 5:6:6a:7:12:12a-Hexahydro-a-naphthacridine, and its diacetyl

derivative (v. Braun and Rohmer), A., 257. Hexahydrophenylalanine, pharmacology of, and its derivatives

(Waser), A., 1109.

Hexahydrophenylglycine-o-carboxylic acid, esters of (Vorländer and FACHMANN), A., 561.

Hexahydrophthalan (Wieland, Schlichting, and v. Langsdorff),

trans-Hexahydrophthalimide (SIRCAR), A., 756.

Hexahydroisoquinoline, 1:3:10-trihydroxy-4-cyano-Bose), A., 774.

Hexahydrostrychnine, and its derivatives (Oxford, Perkin, and Robinson), A., 1209.

Hexahydrotyramine. See cycloHexylethylamine, β -4-hydroxy-. Hexahydrotyrosine, pharmacology of, and its derivatives (WASER), A., 1109.

3:4:6:3':4':6'-Hexamethoxydianthrone (MacMaster and Perkin),

A., 771. 2:4:6:2':4':6'-Hexamethoxytriphenylcarbinol (Lund), A., 661.

Hexamethylbiosan (Hess and Friese), A., 44.

Hexamethyldiethylporphin (FISCHER, HALBIG, and WALACH), A.,

Hexamethylenediguanidine, manufacture of (HEYN), (P.), B., 714. Hexamethyleneimine, and its hydrochloride (v. Braun and Goll), A., 862.

Hexamethylenetetramine (urotropine), manufacture of (Carter and KARPEN & BROS.), (P.), B., 797.

additive compounds of, with metallic halides (SCAGLIARINI and TARTARINI), A., 137.

action of substances containing active methylene groups on (IONESCU and GEORGESCU), A., 651, 880.

determination of, volumetrically (Kolle and Angelescu), A., 786.

separation of ammonium chloride from (Carter and Karpen & Bros.), (P.), B., 619.

Hexamethylethylenediammonium dipicrate (HANHART andIngold), A., 651.

Hexamminecobaltic salts. See under Cobalt.

n-Hexane, crystal structure of (McLennan and Plummer), A., 816. Röntgen-ray diffraction in benzene, cyclohexane, and (RAMAN and Sogani), A., 499.

properties of mixtures of nitrobenzene and (TIMOFÉEV and STACHORSKI), A., 1132.

Hexane, $\alpha\beta\gamma$ -tri- and $\alpha\beta\beta\gamma$ -tetra-bromo- (Bouis), A., 1051. $\beta \gamma \delta \epsilon$ -tetrabromo- (PACE), A., 539.

chloronitro-, and chloronitroso- (RHEINBOLDT and DEWALD), A., 852.

isoHexane, explosion of mixtures of oxygen and (Brown and WATKINS), B., 322.

cycloHexane, Röntgen-ray diffraction in benzene, hexanc, and (RAMAN and Sogani), A., 499.

polarisation and molecular structure of (ERRERA), A., 189.

photo-bromination of (Wood and RIDEAL), A., 1154. heats of mixture of methyl alcohol and (Mondain-Monval), A., 23.

equilibrium of benzene, hydrogen, and (Burrows and Lucarini). A., 628.

derivatives, superheating of (SKRAUP and BEIFUSS), A., 659. cycloHexane, bromo-, action of, with arylhydrazines (Busch and HAASE), A., 554.

chloropentahydroxy- and tetrachlorodihydroxy- (Majima and SIMANUKI), A., 337.

1:1-chloronitro-, and 1:1-chloronitroso- (RHEINBOLDT and Dewald), A., 852.

cycloHexanes, dibromo- (Zelinski and Kozeschkov), A., 653. cycloHexanecarboxylic acid, phenyl ester (SKRAUP and BEIFUSS), 659.

cis- and trans-cycloHexane-1:2-diacetic acids, and their derivatives (Hückel and Friedrich), A., 239.

cycloHexanediacetimide (SIRCAR), A., 451.

cycloHexane-1:2-dicarboxylic acid, degradation of, and its derivatives (Wieland, Schlichting, and v. Langsdorff), A., 243. cycloHexanespiro-2-ethylcyclohexane-3:5-dione (Kon and NARA-YANAN), A., 873.

cycloHexanespirosuccinimide (Sircar), A., 756.

Hexane-aβεζ-tetrol, isopropylidene ether from (Böeseken), A., 39. cycloHexanol, van der Waals' constants for (Weissenberger and HENKE), A., 111.

solubility of gases in (CAUQUIL), A., 303.

and its derivatives, catalytic action of Japanese acid earths on (INOUE), A., 51.

condensation products of, with naphthols (Alberti), A., 145. cycloHexanols, formation of ethers from (LACOURT), A., 761. isoHexan-δ-ol-β-one, decomposition of in alkali solutions (ÅKER-

LÖF), A., 116.

ethers of (HOFFMAN), A., 338. cycloHexanone, van der Waals' constants for (WEISSENBERGER and HENKE), A., 111.

action of sodamide on (CORNUBERT), A., 666.

diethylsulphone, physiological action of (Récsei), A., 1110. cycloHexanone, trithio-, and its derivatives (Fromm), A., 1189. cycloHexanones, condensation of, with aromatic aldehydes, and their alkylation (Cornubert and Le Bihan), A., 1075.

αγγδδζ-Hexaphenyl-Δας-hexadiene (Moureu, Ноиситом), А., 355.

 $\Delta^{\alpha\gamma\epsilon}$ -Hexatriene, derivatives of (Prévost), A., 337.

△a-Hexene (VAN RISSECHEM), A., 38.

cycloHexene, ultra-violet absorption spectrum of (SMITH, ADAMS, and Pease), A., 608; (De Laszlo), A., 918.

Hexenes, a-mono- and $\beta \gamma$ -di-bromo- (Bouis), A., 1051.

 Δ E-Hexene- β C-dicarboxylic acid, β -cyano-, methyl ethyl ester (FARMER and HEALY), A., 646.

Δα-Hexene-εζ-diol, isopropylidene ether from (BÖESEKEN), A., 39. cycloHexene oxide, action of, on alkali and ammonium halides (SEN and BARAT), A., 762. Δβ-Hexen-α-ol (Bouis), A., 1051.

 Δ^{1} -cycloHexenylacetanilide (Kon and Narayanan), A., 878.

Δ1-cycloHexenylaldehyde, 2-hydroxy-, semicarbazone (v. Auwers),

ζ-Δε'-Hexenylamino-n-hexane, a-amino-, and its salts and benzoyl derivative (v. Braun and Goll), A., 862.

2-Δ1-cycloHexenylcyclohexanone, derivatives of (Kon and Nur-LAND), A., 153.

 $\Delta \gamma$ -Hexinene- $\beta \epsilon$ -diol, $\alpha \zeta$ -dichloro-, dimethyl ether of, and its dibromides (LESPIEAU), A., 643.

 $\Delta \gamma$ -Hexinene- $\alpha \beta \epsilon \zeta$ -tetrol, and its derivatives (Lespieau), A., 643. isoHexoethylamide, a-amino-, and its salts, and a-bromo- (v. BRAUN and MÜNCH), A., 345.

isoHexomethylamide, a-amino-, and its picrate, and a-bromo-(v. Braun and Münch), A., 345.

Hexoic acid, bromine derivatives of (MERCHANT, WICKERT, and Marvel), A., 853.

Hexoic acid, a-thiol- (NICOLET and BATE), A., 977.

n- and iso-Hexoic acids, a-bromo-, a-hydroxy-, and a-thiol-, and their sodium salts (LEVENE, MORI, and MIKESKA), A., 1171.

Hexonic acid, preparation of (Goebel), A., 647.

isoHexo-β-phenylethylamide, α-amino-, and its hydrochloride, and a-bromo- (v. Braun and Münch), A., 345.

Hexose anhydride triacctate, cryoscopy of (Bergmann, Knehe, and v. Lippmann), A., 1173.

Hexoses, enzymic fission of (v. EULER, NILSSON, and LÖVGREN), A., 697.

free and phosphorylated, fermentation of, by yeast (Neuberg and KOBEL), A., 378.

determination of, by fermentation (SCHMIDT, TREFZ, and Schnegg), A., 80.

Hexosediphosphoric acid (Morgan), A., 749.

formation and decomposition of, in alcoholic fermentation (v. EULER and MYRBÄCK), A., 794.

dissociation constant of (MEYERHOF and SURANYI), A., 75. hydrolysis of, by muscle extracts (MEYERHOF), A., 75.

tetramethyl ester (SCHLUBACH and RAUCHENBERGER), A., 644. Hexosephosphates (MEYERHOF and LOHMANN), A., 697.

Hexosephosphoric acid, isolation of, from yeast fermentation (NEUBERG and LEIBOWITZ), A., 700.

and its salts, from rabbit muscle (EMBDEN and ZIMMERMANN), A., 749.

esters, synthesis of, and their action with yeast (Nodzu), A., 539.

rôlo of, in ossification (MARTLAND and Robison), A., 699.

Hexosephosphoric acids, enzymic interconversion of (Neuberg and Leibowitz), A., 993.

influence of, on insulin hypoglycæmia (MARKS and MORGAN), A., 701.

action of, on amino-acids and serum (NEUBERG and KOBEL), A., 652.

Hexose-redoxase. See Mutase.

dl-isoHexoyl-8-aminovaleric acid, a-bromo- (ABDERHALDEN and HARTMANN), A., 1113.

d- and l-isoHexoylglycyl-l-tyrosines, α-bromo- (Abderhalden and SCHAPIRO), A., 1113.

isoHexoyltyramine, a-bromo- (ABDERHALDEN and SCHWAB), A., 1112.

Hexyl chloride (SUTHERLAND and MAASS), A., 442.

cycloHexyl benzyl ether (SENDERENS and ABOULENC), A., 51. bromide, action of, on arythydrazines (Busch and Becker), A., 761.

cycloHexylacetic acid, ethylamide of, and aa-dichloro-, and its derivatives (v. Braun, Jostes, and Münch), A., 548.

cycloHexylacetic acid, 1-iodo-2-hydroxy-, y-lactone of (LINSTEAD and Max), A., 1167.

cycloHexylacetolactone, 3-hydroxy-(Robinson and Zaki), A., 1186. cycloHexylamine, and its benzoate (SKITA, WULFF, FEHR,

WINTERHALDER, and MEETZ), A., 157. cycloHexylamines, manufacture of (I. G. FARBENIND. and FARBW. VORM. MEISTER, LUCIUS, & BRÜNING), (P.), B., 809.

1-cycloHexylaminoanthraquinone (I. G. FARBENIND, and FARBW. VORM. MEISTER, LUCIUS, & BRUNING), (P.), B., 809.

cycloHexylaminoazobenzene, and p-nitro-, and their hydrochlorides (Busch and Gebelein), A., 553.

cycloHexylaminobenzeneazo-β-naphthalene, and its hydrochloride (Busch and Gebelein), A., 553.

n-Hexylaminobenzthiazole, and its dibromide (HUNTER), A., 263. n-Hexylaminobenzthiazole, 5-bromo-, and its dibromide (HUNTER and SOYKA), A., 263.

β-cycloHexylaminobutyric acid, and its derivatives (Skita and Wulff), A., 559.

cycloHexylaminoheptanecarboxylie acid, and its derivatives (SKITA and WULFF), A., 559.

isoHexylaminoisohexoethylamide, and its hydrochloride (v. Braun and Münch), A., 345.

a-cycloHexylamino-y-cyclohexylbutyric acid, and its ethyl ester (ŠKITA and WULFF), A., 765.

a-cycloHexylamino-a-hydroxypropionic acid (Skita and Wulff),

2-n-Hexylamino- β -naphthathiazole, and its tetrabromide hydrobromide (Dyson, Hunter, and Soyka), A., 264.

a-cycloHexylamino-γ-phenylbutyric acid, methyl ester, and its

derivatives (Skita and Wulff), A., 765. α-cycloHexylamino-ε-phenylhexoic acid (SKITA and WULFF),

cycloHexylaminophenylpropanecarboxylie acid, and its derivatives (SKITA and WULFF), A., 559.

a-isoHexylaminopropionisoamylamide. and its hydrochloride (v. Braun and Münch), A., 345.

α-cycloHexylaminopropionic acid, and its derivatives (Skita and Wulff), A., 559.

cycloHexylaniline (I. G. FARBENIND, and FARBW, VORM, MEISTER, Lucius, & Brüning), (P.), B., 809.

salts (HIERS and ADAMS), A., 552; (Busch and Genelein), A., 553.

4-cycloHexylanisole (Bartlett and Garland), A., 968.

as-cycloHexyl-p-chlorophenylhydrazine, and its salts and benzoyl derivative (Buson and Becker), A., 761.

3-cycloHexyl-p-cresol (SKRAUP and BEIFUSS), A., 659.

α- and β-cycloHexyldecahydronaphthalenes (Alberti), A., 145. cycloHexyldecahydronaphthols (Alberti), A., 145.

3-cycloHexyldecahydro-β-naphthyl acetates (Alberti), A., 145. 2-cycloHexyldecahydroquinoline, and its derivatives (Skita, WULFF, FEHR, WINTERHALDER, and MEETZ), A., 157.

2-cycloHexyldecahydroquinoline-4-carboxylic acid, and its derivatives (SKITA, WULFF, FEHR, WINTERHALDER, and MEETZ), A., 157.

Hexylene sulphite, tetrachloro- (MAJIMA and SIMANUKI), A., 337.

Hexylene glycol, tetrachloro- (MAJIMA and SIMANUKI), A., 337. cycloHexylethylamine, β-4-hydroxy-, and its salts and derivatives

(Waser and Fauser), A., 555.

cycloHexylethylanilme (I. G. Farbenind, and Farbw. vorm.

Meister, Lucius, & Brüning), (P.), B., 597, 809.

4-β-cycloHexylethylresorcinol (Talbot and Adams), A., 968. β-cycloHexyl-a-glucoheptoside, and its penta-acetyl derivative

(GLASER and ZUCKERMANN), A., 650. 8:9-(1':2'-cycloHexyl)hexahydrocarbazole, and its salts (MANJU-NATH), A., 978.

cycloHexylhydrazine, and its salts and derivatives (Busch and LINSENMEIER), A., 455.

cycloHexylhydrazinedicarboxylamide (Busch and Linsenmeier), A., 455.

a-cycloHexylhydrobenzoin. transpositions of (Orekhov and Tiffeneau), A., 1076.

cycloHexylideneacetaldehyde, and its semicarbazone (RUPE), (P.), B., 572.

cycloHexylideneacetamlide (Kon and Naravanan), A., 878. cycloHexylideneacetic acid, sodium salt (LINSTEAD), A., 356.

cycloHexylidenemethyl ethyl ketone semicarbazone (Kon and NARAYANAN), A., 878.

a-cycloHexylimino-β-benzylidenepropionic acid (SKITA and WULFF), A., 765.

a-cycloHexylimino-β-cinnamylidenepropionic acid (Skita and Wulff), A., 766.

a-cycloHexyliminopropionic acid (SKITA and WULFF), A., 559. 3-n-Hexylindole (Korczyński, Brydovna, and Kierzek), A., 255.

p-cycloHexylmethylaminoazobenzene, and its hydrochloride (Busch and Gebelein), A., 553. p-cycloHexylmethylaminoazobenzene-p'-sulphonic acid, and its

potassium salt (Busch and Gebelein), A., 553.

cycloHexylmethylaniline (I. G. FARBENIND, and FARBW. VORM. MEISTER, LUCIUS, & BRÜNING), (P.), B., 597, 809. and its hydrochloride (Busch and Gebelein), A., 553.

cycloHexylmethylphenyl ketone, 2:4-dihydroxy- (TALBOT and

Adams), A., 968. cycloHexylnaphthols, and their sodium salts (Alberti), A., 145.

as-cycloHexyl-β-naphthylhydrazine, and its salts (Busch and BECKER), A., 761.

cycloHexyloctahydronaphthalenes (Alberti), A., 145. 4-cycloHexylphenetole (Bartlett and Garland), A., 968.

o-cycloHexylphenol (SKRAUP and BEIFUSS), A., 659.

p-cycloHexylphenol, and its benzoate (BARTLETT and GARLAND), A., 968.

cycloHexylphenylamine, 2:4-dinitro- (Busch and Gebelein), A., 553.

cycloHexyl-e-phenylamylamine, and its hydrochloride (Skith and Wulff), A., 766.

a-cycloHexyl-a-phenylhydrazine (Busch and Gebelein), A., 553; (Buscu and HAAS), A., 554.

cycloHexyl phenyl ketone, o-hydroxy- (SKRAUP and BEIFUSS), A., 659. cycloHexyl-y-phenylpropylamine, and its salts and nitrobenzoyl

derivative (SKITA and WULFF), A., 765. 2-cycloHexyl-4-phenylsemicarbazide, and its derivatives (Busch

and Linsenmeier), A., 455.

2-cycloHexyl-4-phenylthiosemicarbazide (Busch and Linsen-MEIER), A., 455.

cis- and trans-β-cycloHexylpropionic acids, amino-, benzoyl derivatives (HÜCKEL and STEPF), A., 573.

2-cycloHexylquinoline (Skita, Wulff, Fehr, Winterhalder,

and MEETZ), A., 157.

2-cycloHexylquinoline-4-carboxylic acid, and its derivatives (SKITA, WULFF, FEHR, WINTERHALDER, and MEETZ), A., 157. 4-cycloHexylresorcinol (Bartlett and Garland), A., 968.

cycloHexylsemicarbazide, and its hydrochloride (Busch and LINSENMEIER), A., 455.

8:9-(1':2'-cycloHexyl)tetrahydrocarbazole, and its picrate (MANJU-

NATH), A., 978. 2-cycloHexyl-1:2:3:4-tetrahydroquinoline, and its (SKITA, WULFF, FEHR, WINTERHALDER, and MEETZ), A., 157.

2-cycloHexyl-1:2:3:4-tetrahydroquinoline-4-carboxylic acid, derivatives of (Skita, WULFF, FEHR, WINTERHALDER, and MEETZ),

cycloHexyltoluidines, and their salts and derivatives (Busch and GEBELEIN), A., 553.

Hibernium in radioactive haloes, and its identification (Russell),

A., 1003.

Hides, treatment of (SHEARD), (P.), B., 197.

depilation and preservation of (Bohon and E. and P. Mail-LIARD), (P.), B., 791.

solution for depilation of (Benfey), (P.), B., 535. soaking of (Bohon and E. and P. Mailliard), (P.), B., 791. swelling and adsorption of acids by (PAVLOV and TIMOCHIN), B., 86.

chemistry of liming of (McLaughlin, Highberger, and Moore), B., 971.

bacteriology of liming of (McLaughlin, Rockwell, and BLANK), B., 971.

influence of degree of liming on tannin absorbed by (Gustavson and Widen), B., 230.

treatment of, before tanning (Botson), (P.), B., 758, 917*. tanning of (CHEM. WERKE "HERKULES"; SCHAPRINGER), (P.), B., 854.

with metallic salts (CHICOINEAU), (P.), B., 758.

effect of hydrogen-ion concentration of tan liquors on absorption

of tannin by (Parker and Gilman), B., 757. unhairing of (Ross, Marris, and Walker & Sons), (P.), B., 86*; (McLaughlin and O'Flaherty), B., 972.

chrome-tanned, fixation of tannins by proteins of (Gustavson), B., 341.

waste, manure from (Joret and Radet), B., 373.

Hide powder (ATKIN and THOMPSON), B., 853.

standardisation of (Bennett), B., 52, 534. nitrogen content of (Kelly), B., 20.

batch B. 14 (BURTON), B., 757.

cationic and anionic chrome-tanned, absorption of acid and basic dyes by (Gustavson), B., 54.

formaldehyde-tanned, adsorption of chromium compounds by (Gustavson), B., 285.

Hide proteins, maximum reactivity of, in isoelectric zones (Gustavson), B., 85.

action of neutral salts on (McLaughlin and Theis), B., 53. Hide substances, destructive and preservative effects of neutral salts on (Thomas and Kelly), B., 420.

Hippospongia equina (bath sponge), constitution of (CLANCEY), A., 65.

Hippuric acid, formation of, in the animal organism (SEKINE), A., 695.

synthesis of, in urine (Koch; Widmark), A., 375.

Hirsutidin (KARRER and WIDMER), A., 1198.

Hirsutin, and its chloride (KARRER and WIDMER), A., 1197.

Hirsutone (KARRER and WIDMER), A., 1198.

Hirudin, action of, on thrombin (BARRATT), A., 1103.

Histase from streptococci (Fobisher), A., 379.

Histidine, isolation of, and its sulphonates (VICKERY), A.,

synthesis of, in the body (HARROW and SHERWIN), A., 72. separation of, from arginine (VICKERY and LEAVENWORTH), A., 546, 1175.

Holarrhena antidysenterica, oil from seeds of (GHANEKAR and AYYAR), B., 706.

Holothuria, edible (FRÄNKEL and JELLINEK), A., 788.

Holothuria tubulosa, composition of (HAUROWITZ and WAELSCH),

Homatropine, preparation of (CHEMNITIUS), A., 1097.

Homocamphenilol, and its phenylurethane (LIPP, GÖTZEN, and REINARTZ), A., 568.

Homocamphenilone, and its derivatives (LIPP, GÖTZEN, and REINARTZ), A., 568.

Homocholane (Wieland, Schlichtino, and Jacobi), A., 248. Homoeugenol, and its derivatives (Mannich and Merz), A., 555. Homopiperonylamide, and its dihydroisoquinoline derivative (Кітачато), А., 1095.

Homopiperonylhomoveratrylamine (KITASATO), A., 1095.

Homopiperonylhydromethylhydrastinine, 6'-nitro- (OBERLIN), A., 681.

1-(6'-Homopiperonyl)-N-methyl-1:2-dihydroisoquinoline, 6-nitro-(OBERLIN), A., 681.

Homopyrocatechol ethers, nitro-derivatives of (OXFORD), A., 968. as-Homotetrahydroisoquinoline bases, synthesis of (v. Braun and WIRZ), A., 254.

Homotetraphthene (v. Braun and Rath), A., 666.

Homoveratrole, 6-bromo-, nitration of (HEAP, Jones. and Robinson), A., 968.

6-bromo-2-nitro-, and 2:5-dinitro- (OXFORD), A., 968.

Homoveratroylhydromethylhydrastinines, nitro- (OBERLIN), A., 681. Homoveratroyl- β -phenylethylamine (Kitasato), A., 1095.

Homoveratrylhydromethylhydrastinine, 6'-nitro- (OBERLIN), A., 681.

3-Homoveratryl-7-methoxychromanone (PERKIN, Rây, and Robinson), A., 1085.

Honey, bee, refining of (SOMERFORD), (P.), B., 763. German (FIEHE), B., 25.

Honey-dew, composition of (Schoofs), A., 596.

Hops, drying of (Burgess), B., 199. manurial experiments with (Burgess), B., 307.

browing with new varieties of (Lones and Grant), B., 152. dried spent, nutritive value of (DAVIES and SULLIVAN), B., 712. green and kiln-dried, preservative properties of (Charman and

McHugo), B., 455. old cold-stored (Chapman), B., 89.

antiseptic action of bitter substances of (WINDISCH, KOLBACH, and Schüren), B., 711.

determination of the antiseptic value of (HASTINGS, PYMAN, and WALKER), B., 24.

Hormones, female sex (LOEWE and LANGE; LOEWE, LANGE, and SPOHR), A., 282.

Horn, treatment of (HOMBERG and AMER. NUPLAX CORP.), (P.), B., 758.

manufacture of materials resembling (DEUTSCHE KUNSTHORN), (P.), B., 306.

artificial, manufacture of (Boyer and Gueudré), (P.), B., 197; (BRITISH GLUES & CHEMICALS, DUNCALFE, and COTES), (P.), B., 565.

pressing devices for (MANFRED), (P.), B., 565. from casein (OBRIST and MANFRED), B., 21.

Hugoniot's equation (KLÜSENER), A., 819.

Humic acid, determination of, in soils (SCHAILL), B., 759.

Humic acids, action of bromide, chlorine dioxide, and thionyl chloride on (Fuchs and Leopold), B., 377.

methylation of, and their treatment with ammonia (Fucus and LEOPOLD), B., 315.

determination of, colorimetrically (Springer), B., 271. Humidity of gases, regulating the degree of (OBERMILLER), (P.), B., 175.

Humin substances, preparations of, from coal (PIETTRE), (P.), B., 866.

Humus, origin of (Marshall and Page), A., 388. in soils (Waksman and Tenney), B., 22.

origin and nature of, in soils (WAKSMAN), B., 170.

formation of, from vegetable tissues (THAYSEN and BAKES), A., 907.

Humus substances (SCHMIDT and ATTERER), A., 861.

Hydantoins, catalytic oxidation of (BAUDISCH and DAVIDSON), A., 1151.

carbamyl derivatives of, and their inversion (BILTZ and HEIDкісн), А., 1093.

metabolism of. See under Metabolism.

Hydnocarpic acid, refining and isolation of (PERKINS, CRUZ, and Reyes), B., 754. Hydnocarpus wightiana, oil of (PERKINS, CRUZ, and REYES),

B., 754.

Hydrargyrum salicylicum (RUPP and YERSCH), A., 685. Hydrastis canadensis, analysis of fluid extracts of (RAURICH).

B., 156. British Columbian, alkaloid content of (CLARK and WINTER), B., 504.

Hydrates (Willstätter and Kraut), A., 17; (Remy), A., 315. stability of (Cuy), A., 191.

Hydration of univalent ions (E. and E. B. Schreiner), A., 1025. of solutes in aqueous solutions (RAKSHIT), A., 619.

Hydrazides, action of (DE), A., 979.

Hydrazine, action of, on meconine and 3-nitromeconine (TASMAN), A., 876.

and its derivatives, influence of, on metabolism (Izume and

Lewis), A., 73; (Lewis and Izume), A., 171. oxidation of compounds of (Minunni and D'Urso), A., 1073.

hydrate, action of, on uridine (Levene and Bass), A., 261. sulphate, electrometric titrations with (Mellon and Morris), A., 637.

Hydrazines, reaction of, with hydroxymethyleneketones (v. Auwers and Mauss), A., 361.

with β -nitrostyrene (Worrall), A., 761. with semicarbazones (Baird and Wilson), A., 1063.

optically active, preparation of (GLATTFELD and CAMERON), A.,

unsymmetrical, molecular rearrangement of (Gilbert), A., 238. 2-Hydrazinoindene-N:N'-dicarboxylic acid, ethyl ester (DIELS and ALDER), A., 160.

 β -o-Hydrazinophenylpropane-N:N'-dicarboxylic acid, aβ-dibromo-derivative (DIELS and ALDER), A., 160.

β-o-Hydrazinophenylpropene-N:N'-dicarboxylic acid, methyl ester (DIELS and ALDER), A., 160.

Hydrazinophenylpyridines (Forsyth and Pyman), A., 255.

2-Hydrazinopyridine, 5-nitro-, production of (Deutsche Gold- & SILBER-SCHEIDEANSTALT VORM. ROESSLER), (P.), B., 29.

3-Hydrazinopyridine (Deutsche Gold. & Silber-Scheide-anstalt vorm. Roessler), (P.), B., 572. 5-Hydrazinopyridine, 2-chloro- (Deutsche Gold. & Silber-

Scheideanstalt vorm. Roessler), (P.), B., 572.

4-Hydrazino-1:2:4:4-tetrahydro-1:2-benzdiazine-N:N':N'':N'''tetracarboxylic acid. See 4-Hydrazino-cinnoline-N:N':N'':N'''-tetracarboxylic acid. 4-Hydrazino-1:2:4:4-tetrahydro-

4-Hydrazino-1:2:4:4-tetrahydrocinnoline-N:N':N'':N'''-tetracarboxylic acid, methyl ester (DIELS and ALDER), A., 159.

Hydrazocyclohexane, 1:1'-dicyano- (HARTMANN), A., 455.

Hydrazoic acid. See Azoimide.

2:2'-Hydrazopyridine (KIRPAL and REITER), A., 466.

Hydrazodithiodicarbonamide, action of aromatic amines on (MACUREVITSCH), A., 777.

Hydrides, volume of hydrogen in (Moles), A., 812.

Hydrindene, 4-amino-, and its acetyl derivative, and 4-nitro-(LINDNER and BRUHIN), A., 352.

Hydrindolylmethyl alcohol, and its salts (Rupe and Wieland), A., 58.

a-Hydrindone, preparation of (AMAGAT), A., 970. from coal tar (WALTERS), B., 359.

y-1-Hydrindyl-n-butyric acid, and its chloride (v. Braun and Rath), A., 666.

β-1-Hydrindylethylmalonic acid, ethyl ester (v. Braun and Rath), A., 666.

Hydriodic acid. See under Iodine.

Hydroanthranilic acids (MAZZA and CRAPETTA), A., 662.

Hydrobenzamide, ammono-aldehyde character of (STRAIN), A., 767.

isoHydrobenzoins, optically active (READ and STEELE), A., 557. Hydrobromic acid. See under Bromine.

Hydrocaffeic acid, extraction of, from spores of Lycopodium clavatum (Zetzsche and Huggler), A., 767.

Hydrocarbon, C₈H₁₂, from reduction of product of phosphorus tribromide and $\beta\epsilon$ -dimethyl- $\Delta\gamma$ -hexinene- $\beta\epsilon$ -diol (Krestinski), A., 442.

C₂H₁₈, from a-bromovaleraldehyde and magnesium ethyl

bromide (Kirrmann), A., 751. C₁₂H₂₀, and C₁₂H₂₂, from alcohol C₁₂H₂₂O, from reduction of 3-methylcyclopentanone (Zelinski, Titz, and Fatejev), A., 47.

 $C_{13}H_{\underline{1}}$, and its derivatives, from distillation of lignite tar (HERZENBERG, RUHEMANN, and WICHTERICH), A., 551. from dehydrogenation of tetracyclosqualene (HARVEY, HEIL-BRON, and KAMM), A., 130.

C14H16, and its derivatives, from distillation of lignite tar (HERZENBERG, RUHEMANN, and WICHTERICH), A., 551.

 $C_{14}H_{22}$, and $C_{14}H_{26}$, from Manila copal (Ruzicka, Steiger, and Schinz), A., 60.

C15H24, and its tetrabromide and tetrahydro-derivative, from geraniol (Thoms), A., 155.

Hydrocarbon, $C_{16}H_{28}$, from a-bromo- $\beta\epsilon$ -dimethyl- $\Delta\beta\delta$ -hexadiene and

sodium acetate (Prévost), A., 749. $C_{1g}H_{32}$, from copalcarboxylic acid (Horrmann and Kroll), B., 609.

C₁₉H₃₄, from reduction of tricyclohexylcarbinol (Zelinski and Gaverdovskaja), A., 457.

 $C_{20}H_{34}$, and its silver derivative, from dibromide of β_{γ} -dibromo-

A propene (LESPIEAU), A., 337. C₂₂H₁₈, from dehydration of αγδ-triphenylbutane-γδ-diol (OREKHOV and TIFFENEAU), A., 1076.

C26H42, and its bromide, from a-cholesterylene (Montignie),

A., 969. $C_{28}H_{36}$, from ethyl β -p-toluylpropionate (RUPE and Schütz), A.,

C₃₂H₄₀, from ethyl ætiocholanate and magnesium phenyl bromide (Wieland, Schlichting, and Jacobi), A., 248. C3, H44, from diphenylcarbinol from ethyl bisnorcholanate

(WIELAND, SCHLICHTING, and JACOBI), A., 248.

C₃₄H₇₀, from oleander leaves (TAUBER and ZELLNER), A., 386. C38H48, from norcholyldiphenylcarbinol (WIELAND, SCHLIGH-TING, and JACOBI), A., 247.

 $C_{38}H_{50}$, from Manila copal (Ruzicka, Steiger, and Schinz), A.,

Hydrocarbons, formation of, from phenols (KLING and FLORENTIN), A., 452, 1177.

preparation of, by reduction of organic substances (CAMPARDOU), A., 440.

preparation of mixtures of carbon monoxide and hydrogen from

(Casale), (P.), B., 741. synthesis of (Thermatomic Carbon Co. and Spear), (P.), B., 961. synthesis of methyl alcohol and (PATART), (P.), B., 460*. manufacture of (CLANCY), (P.), B., 323*.

and their derivatives, from coal, tar, mineral oils, etc. (I. G.

FARBENIND.), (P.), B., 595, 695, 741. from lignite coke at 500° (FISCHER and PICHLER), B., 864. from action of steam on lignite coke (HOFMANN and GROLL), B., 289.

and their derivatives, from mineral oils (I. G. FARBENIND.), (P.), B., 740.

from natural oils and bitumens (I. G. FARBENIND.), (P.), B.,

treatment of (Lea), (P.), B., 68; (Cross and Gasoline Pro-DUCTS Co.), (P.), B., 578; (HOWARD and UNIVERSAL OIL Products Co.; Messenger and Standard Development Co.; FREELAND; DUBBS and UNIVERSAL OIL PRODUCTS Co.), (P.), B., 673.

refining of (Lucas, Lomax, and V.L. Oil Processes), (P.), B., 182*.

treatment of spent acids from (Dorman, Long & Co., Roelof-SEN, and SHUTTLEWORTH), (P.), B., 7.

purification of (DEMANT), (P.), B., 245; (PARSONS, COLEMAN, and STANDARD DEVELOPMENT Co.), (P.), B., 961.

purification and dehydration of (APPARATEBAU A.-G.), (P.), B., 182.

isomeric changes in, with catalysts (Dojarenko), A., 138.

isomerisation of, by phenols (KONDAKOV), B., 505.
polymerisation of (WATERMAN and PERQUIN; WATERMAN and

Jamin), B., 131.

Raoult's law applied to mixtures of (CALINGAERT and HITCHсоск), А., 417.

critical solution temperature of mixtures of alcohols with (BOUTARIC and CORBET), A., 719.

apparatus for absorption of (Newton), (P.), B., 133. adsorption and distillation of (Newton), (P.), B., 517.

cracking of (Pollock and Universal Oil Products Co.; WEAVEX and OIL PRODUCTS Co.), (P.), B., 6; (HADAWAY and Texas Co.), (P.), B., 626; (Herthel, Pelzer, and Sinclair Refining Co.), (P.), B., 674*; (Standard Development Co.), (P.), B., 741; (Tolman), (P.), B., 836; (LESLIE and TUNISON), (P.), B., 868; (JANSEN; TAVEAU and Texas Co.; Holmes, Manley, Behimer, and Texas Co.), (P.), B., 900; (EGLOFF, ALTHER, and UNIVERSAL OIL Products Co.; Bell, Isom, and Sinclair Refining Co.), (P.), B., 961.

electrical (Rowland and C. & C. Developing Co.), (P.), B.,

apparatus for (Egloff, Benner, and Universal Oil Pro-DUCTS Co.), (P.), B., 323.

treatment of gases produced in (Soc. Anon. D'EXPLOSIFS ET DE PROD. CHIM. and BLANCHET), (P.), B., 836.

Hydrocarbons, cracking of, poor in hydrogen (Braunkohlen-Produkte), (P.), B., 182.

cracking and purification of (GRAY PROCESSES CORP. and GRAY), (P.), B., 290; (I. G. Farbenind.), (P.), B., 836.

hydrogenation and cracking of (Bergius), (P.), B., 133. distillation of (A. M., G., T., and H. Offermann), (P.), B., 291; (MILIARD, ATCKISON, COULTER, and SOUTH-WESTERN ENGINEERING CORP.), (P.), B., 577.
apparatus for (Hess), (P.), B., 403.
under pressure (Hess), (P.), B., 134.

condensation of (ISOM, BELL, and SINCLAIR REFINING Co.), (P.),

separation of water from mixtures of steam with (Cooper,

HENSHAW, and HOLMES & Co.), (P.), B., 646.
recovery of vapours of (Voress, Turner, and Gasoline Recovery Corporation), (P.), B., 273.

demulsification of (A. B. and L. A. WAY), (P.), B., 961.

decomposition of, by heating with hydrogen (Soc. Internat. Combustibles Liquides), (P.), B., 435. catalytic oxidation of (Du Pont de Nemours & Co.), (P.), B.,

low-temperature oxidation of (Lewis), A., 851.

manufacture of oxygenated products from (CASPARI), (P.), B.,

action of nitric oxide on (ELÖD and NEDELMANN), A., 838. liquid derivatives of, substitution of hydroxyl groups for

halogens in (AYRES and HAABESTAD), (P.), B., 859. halogen derivatives, toxicity of, to barley grains (MÜLLER), B., 61Ğ.

improvement of odour of, for disinfectants (Zeche M. Stinnes), (P.), B., 350.

acetylenic, action of, with nitrogen trichloride (COLEMAN, OWEN, and RODRIGUEZ), A., 538.

allene, synthesis of (Bours), A., 1051.

addition of hydrogen bromide to (Bours), A., 748.

aromatic, production of (Gelsenkirchener Bergwerks), (P.), B., 183.

catalytic oxidation of (CRAVER and BARRETT Co.), (P.), B., 764*.

and aluminium chloride, reaction of lactones and furan derivatives with (King), A., 358.

additive compounds of sulphur dioxide with (DE CARLI), A.,

chlorinated, action of, on benzoyl peroxide (Reynhart), A., 357. used in cleaning and scouring, stabilisation of (DE SCHACKEN), (P.), B., 974.

coloured (VANSCHEIDT), A., 140, 234, 349.

cyclic, manufacture of, and their derivatives (I. G. FARBENIND. and Farbw. vorm. Meister, Lucius, & Bruning), (P.), B.,

gaseous, cooling of, at high temperatures (Seigle), (P.), B., 163. decomposition of, by means of water vapour (I. G. FARBEN-IND.), (P.), B., 900.

halogenated, reactivity of (LOEVENICH and LOESER), A., 348; (LOEVENICH, LOSEN, and DIERICHS), A., 538.

reduction of (Bellone and Soc. CHIM. DES USINES DU RHÔNE), (P.), B., 460*.

heavy, cracking of (SMITH and PERL), (P.), B., 961.

conversion of, into light hydrocarbons (DEUTS. ERDÖL), (P.), B., 673.

high-boiling, conversion of, into low-boiling hydrocarbons (Thomas), (P.), B., 100*; (Allgem. Ges. Chem. Ind.), (P.), B., 595, 645.

light, manufacture of (YARD and PERCY), (P.), B., 960.

production of, from hydroxylated, carboxylated, and other oxygenated compounds (FLORENTIN, KLING, and MATIC-NON), (P.), B., 836.

from heavy hydrocarbons (KLING and FLORENTIN), (P.), B., 548, 696*.

from animal or vegetable oils (Florentin, Kling, and Matignon), (P.), B., 836.

liquid, production of, from coal, tar, etc. (I. G. FARBENIND.), (P.), B., 868.

from oil and coal (LAMPLOUGH and HODGSON), (P.), B., 899. from heavy organic materials (PATART), (P.), B., 645.

treatment of, with alternating electric discharge (Siemens & HALSKE), (P.), B., 901.

purification of (Allgem. Ges. Chem. Ind.), (P.), B., 596*. apparatus for solidification of (NEVEU and DE PANIAGUA), (P.), B., 741.

Hydrocarbons, liquid, cracking of (Swoboda, Richards, and Swoboda, Inc.), (P.), B., 211*.

desulphurisation and hydrogenation of (MAZE), (P.), B., 180. light, production of (HERTHEL and SINCLAIR REFINING Co.), (P.), B., 770.

easily liquefied, equation of state of (VAN BOGAERT), A., 719. mixed, fractionation of (PYZEL and SIMPLEX REFINING Co.). (P.), B., 357.

tests on (WATERMAN and PERQUIN), B., 643.

paraffin, synthesis of, from carbon monoxide (FISCHER, TROPSCH, and Ter-Nedden), A., 748.

production of (FISCHER and TROPSCH), (P.), B., 695. equilibria in mixtures of (WILSON), A., 1139.

oxidation of (I. G. FARBENIND.), (P.), B., 291.

ignition of mixtures of air and (MAXWELL and WHEELER), A.,

petroleum, synthesis of (FISCHER), B., 161; (LEGÉ), (P.), B., 516. treatment of (Cross), (P.), B., 323; (Cross and Gasoline Products Co.), (P.), B., 403, 961. distillation of (Bataafsche Petroleum Maatschappi),

(P.), B., 578; (LOOMIS, LEWIS, and STANDARD DEVELOP-MENT Co.), (P.), B., 931.

manufacture of solvents from (BYRNES), (P.), B., 92.

recovery of vanadium from (OBERLE and SCOFIELD), (P.), B.,

action of sulphur monochloride on (LORAND), B., 514.

polycyclic (ZELINSKI, TITZ, and FATEJEV), A., 47. solid, removal of, from liquid hydrocarbons (BERGEDORFER EISENWERK), (P.), B., 357.

unsaturated, catalytic preparation of (Hoover, Dorcas, LANGLEY, and MICKELSON), A., 440.

determination of, by dehydration of alcohols (NAMETKIN and Brinsova), A., 249.

aromatic, action of sulphuric acid on (ORMANDY and CRAVEN), B., 739.

irreversible catalysis of (Zelinski and Kasanski), A., 670. volatile liquid and gaseous, separation of mixtures (BATAAFSCHE PETROLEUM MAATSCHAPPIJ), (P.), B., 673.

Hydrocarbostyrils, preparation of, and their derivatives (MAYER, VAN ZÜTPHEN, and PHILIPPS), A., 573.

Hydrocellulose, use of, in paints and lacquers (GARDNER), B., 418. Hydrochloric acid. See under Chlorine.

Hydrochærus capibara; See Capybara oil.

Hydrocobalticyanic acid, salts, analysis of (Benedetti-Pichler), A., 331.

Hydrocupreine bromocyanide, and cyano-, and its hydrochloride (Boehringer & Soehne, Rothmann, and Hilcken), (P.), B., 828. Hydrocyanic acid. See under Cyanogen.

Hydro-extractors (BAKER PERKINS, LTD., and POINTON), (P.), B.,

cover for (EDEN), (P.), B., 512.

Hydroferricyanic acid, alkali salts, oxidation of cobalt hydroxide with (Bhaduri and Rây), A., 34.

hexammine cobalt salt, activity coefficient of (LATHER, KING, and Mason), A., 314.

potassium salt, crystal structure of (SARKAR), A., 98. use of, for etching (MURAKAMI and SOMEYA), A., 120.

Hydroferrocyanic acid, salts, determination of, potentiometrically (Kolthoff and Vleeschhouwer), A., 127

calcium salt, reactions of, with rubidium and eæsium salts (Del FRESNO and VAZQUEZ), A., 430.

calcium and sodium salts, equilibria of, with water (FARROW), A., 628.

ferric salt, colloidal solutions of (Rossi and Marzari), A., 622. potassium salt, solubility of, in water (VALLANCE), A., 730. alkyl derivatives of (Hölzl, Hauser, and Eckmann), A., 864.

Hydrofluoboric acid. See under Fluorine.

Hydrogels (WILLSTÄTTER and KRAUT), A., 17; (SIMON and THALER), A., 510, 511.

presence of hydroxides in (Hüttig and Döbling), A., 640. Hydrogen, structure of (DE), A., 500

molecular structure of (UREY), A., 1005.

atoms, cross-section of oriented (Fraser), A., 399. mutual influence of two (WANG), A., 1121.

stopping power of, for a-particles (GAUNT), A., 606. positive, reactivity of (Dilthey and Lacus), A., 770.

electrons, orbits, and radiations of (ENGSET), A., 181, 601, 801. molecules, model for (v. Wišniewski), A., 921. energy of crossed orbit model of (HUTCHISSON), A., 290.

cross-sectional area of, against electrons (Brüche), A., 4, 492.

366 Hydrogen molecules, wave mechanics of (Condon), A., 808. specific heat of (DENNISON), A., 817. pure, preparation of, for hydrogen electrodes (BIILMANN and JENSEN), A., 328. use of washing electrodes in electrolytic preparation of (MÜLLER). A., 118. manufacture of (LILJENROTH, LARSSON, and PHOSPHORUS-HYDROGEN Co.), (P.), B., 108*. manufacture of (ROCHET and COMP. PROD. CHIM. ELECTRO-MÉTALLURGIQUES ALAIS, FROGES, & CAMARGUE), (P.), B., 218; (EDWIN), (P.), B., 409; (URBAIN), (P.), B., 937. manufacture of phosphorus acids and (I. G. FARBENIND.), (P.), B., 481, 522. free from carbon monoxide, production of, from water-gas (Cicali), (P.), B., 43. laboratory generator for (FINK and MANTELL), A., 1048. gas burners and apparatus for generators for (L'OXYHYDRIQUE Française), (P.), B., 482. purification of, obtained from phosphorus and steam (I. G. FARBENIND.), (P.), B., 556. spectrum of (ECKART), A., 81. intensities in (Houston), A., 997. Balmer lines in (Houston), A., 81; (Kent, Taylor, and Pearson), A., 177, 997. atoms, Balmer formula applied to (BIRKHOFF). A., 495. absorption and ultra-violet band spectra of (DIEKE and Hor-FIELD), A., 89. band spectra of (RICHARDSON), A., 495, 916. at low temperatures (McLennan, Smith, and Lea), A., 5. secondary band spectrum of (ALLEN and SANDEMAN), A., 394. continuous spectrum of (FREEMAN; CREW, and HULBURT), A., 81; (OLDENBERG), A., 177; (TAKAHASHI), A., 1004; (BAY and STEINER), A., 1117. infra-red spectrum of (POETKER), A., 177, 1117. line spectrum and ionisation potential of (NIESSEN), A., 801. molecular spectrum of positive rays of (Johnson), A., 495. secondary spectrum of (Deodhar), A., 1; (Richardson), A., 1, 1004; (McLennan, Grayson-Smith, and Collins; Allen and Sandeman), A., 1004. ultra-violet spectrum of (WERNER), A., 1. ultra-violet band spectrum of (HORI; DIEKE and HOPFIELD). A., 1005. ultra-violet continuous spectrum of (LAMBREY and CHALONGE), A., 489. ultra-violet series spectrum of (WIEN), A., 707. intensity of spectra in discharge tubes of (TSCHUDI), A., 997. dispersion electrons associated with continuous and series spectra of (Sugiura), A., 494, 801. Stark effect in (Wierl; Slack), A., 391; (Erstein), A., 492. glow in, at high pressure (KAPLAN), A., 738. canal rays in (STEUBING), A., 919. polarisation of light from (HERTEL), A., 708. absorption and scattering of positive rays from, passing through hydrogen (Thomson), A., 182. number of radiating atoms in discharge tubes of (CREW and HULBURT), A., 710. radiation in formation of helium from (JAUNCEY and HUGHES), A., 1004. magnetic separation in streams of (WREDE), A., 397. magnetic atoms and non-magnetic molecules of (Noves), A., 807. atoms, magnetic moment of (PHIPPS and TAYLOR), A., 288. electron affinity of (Joos and Hüttig), A., 84; (Pauling), A., 287; (Kasarnovski and Proskurnin), A., 718. ionisation of (Kallmann and Bredic), A., 604; (Dorsch and KALLMANN), A., 1001. ionisation potentials of (DE), A., 500. ionised molecules of (ALEXANDROV), A., 5, 394. ionised, dielectric properties of (GUTTON and CLEMENT), A., 294. mobility of ions in mixtures of acetylene with (Loeb and Du SAULT), A., 914. mobility of ions in mixtures of ammonia and (LOEB), A., 181. mobilities of ions in mixtures of ethyl ether and (LOEB), A., 86. ionisation in mixtures of rare gases with (HARNWELL), A., 709. dissociation of, by electrons (Hughes and Skellett), A., 811. diffusion of slow electrons in (ZACHMANN), A., 1001. electrio discharge in (GÜNTHER-SCHULZE), A., 392. activation of, in the electric discharge (ELLIOTT), A., 187. by electron impact (GLOOKLER, BAXTER, and DALTON), A., 187; (GLOCKLER), A., 293. activity of (HOLMBOE), A., 1038.

Hydrogen, overvoltage of (Onoda), A., 24; (SAND), A., 735. in relation to concentration and surface tension (ONODA), A., voltage needed for luminous discharge in (Noyes), A., 709. dielectric constant and diamagnetism of (VAN VLECK), A., specific heat of (Dieke), A., 1018. quantum theory of (Van Vleck), A., 87; (Hutchisson), A., 88. liquefier and circulator for (ONNES), A., 301. liquid vapour pressure of (HENNING), A., 194, melting curvo of (ONNES and VAN GULIK), A., 301. compressibility of, and its mixtures with nitrogen (BARTLETT), compressed, water vapour content of, and of its mixtures with nitrogen (BARTLETT), A., 207. adsorption of, by catalytic copper (GRIFFIN), A., 1038. by pyrophoric iron, nickel, and cobalt (NIKITIN), A., 406. by palladium on carriers (SABALITSCHKA), A., 821. by titanium and vanadium (HUBER, KIRSCHFELD, and Sieverts), A., 105. solubility and diffusion of, in metals (Borelius and Lindblom), A., 195; (Borelius), A., 727. diffusion of, into iron and platinum (LOMBARD), A., 727. permeability of nickel to (LOMBARD), A., 616. equilibrium of cyclohexane, benzene, and (Burrows and Lucarini), A., 628. inflammability of (TANAKA and NAGAI), A., 1145. influence of hydrogen selenido on inflammability of mixtures of air and (TANAKA and NAGAI), A., 833. inflammability of, in presence of ethyl and hydrogen selenides (TANAKA and NAOAI), A., 212. propagation of flame in mixtures of air and (Georgeson and HARTWELL), A., 211. temperatures of combustion of (DROSSBACH), A., 940. combustion of, in gasoline engines (LOVELL, COLEMAN, and BOYD), B., 322. combustion of mixtures of, with air or oxygen (TERADA, YUMOTO, and NAKAYA), A., 1147. combustion of carbon monoxide and air with (CAMPBELL and Woodhead), A., 115; (Maxwell, Payman, and Wheeler), A., 317. oxygen required for combustion of (Jones and Perrott), A., 1036. catalytic combination of oxygen and (REMY), A., 28. explosion of, in gaseous mixtures (EGERTON and GATES), A., explosion of mixtures of oxygen and (SAUNDERS), A., 605. addition of, to acetylene derivatives (Salkind and Iljin), A., actinic absorption of chlorine with reference to its reaction with (Taylor), A., 216. photochemical reaction between chlorine, oxygen, and (CREMER), A., 947. catalytic combination of ethylene and, in presence of copper (Pease and Harris), A., 1151. influence of water on combination of halogens with (BODENSTEIN and Jost), A., 737. conversion of, into helium (PANETH, PETERS, and GÜNTHER), A., 429. reduction of metallic chlorides by (BAGDASARIAN), A., 431. combination of activated nitrogen and (CARESS and RIDEAL), compounds of sodium with (HÜTTIG and BRODKORB), A., 529. active (SCANAVY-GRIGORIEVA), A., 119. concentrated, manufacture of (THIEL and STAMPE), (P.), B., determination of, in hæmin and its derivatives, and in pyrroles (Fischer and Walter), A., 1099. atomic, preparation and properties of (TAYLOR), A., 30. emission of light from (ATKINSON), A., 997. dispersion of (LANGER), A., 93. reflexion of, from ice crystals (Johnson), A., 819. dielectric constant of (Epstein; Aylesworth), A., 812. flames of (LANGMUIR), B., 529. triatomic (PANETH, KLEVER, and PETERS), A., 429. Hydrogen bromide. See Hydrobromic acid under Bromine. chloride. See Hydrochloric acid under Chlorine. cyanide. See Hydrocyanic acid under Cyanogen. halides. See Halogen hydrides. iodide. See Hydriodic acid under Iodine.

Hydrogen peroxide, preparation of (KILPATRICK, REIFF, and RICE),

stable, manufacture of (HALVORSEN), (P.), B., 440.

metal vessels for production and storage of (SCHMIDT), (P.),

distillation of (CHEM. FABR. COSWIG-ANHALT and V. DRATHEN), (P.), B., 815.

decomposition of, by water of Wiesbaden hot springs (FRESENIUS, EICHLER, and LEDERER), A., 320. photochemical decomposition of solutions of (Rice and Kil-

PATRICK), A., 1154.

thermal decomposition of (ELDER and RIDEAL; RICE and Reiff), A., 1035.

catalytic decomposition of (SPITALSKY and KAGAN), A., 117. influence of temperature on (GALECKI and JERKE), A., 632. by chromic acid or dichromates (SPITALSKY and KOBOSEV), A., 835.

by hamin (v. Euler and Josephson), A., 837. by metallic ions (v. Kiss and Lederer), A., 837.

by neutral salts in presence of iron ions (v. Kiss and

LEDERER), A., 1150.

by potassium dichromate (Robertson), A., 632, 837 by sodium molybdate (SPITALSKY and FUNCK), A., 426 activation of, by iron salts (WIELAND and FRANKE), A., 944. use of, as an oxidising agent in acid solution (HATCHER and HOLDEN; HATCHER, HOLDEN, and Toole; HATCHER and

TOOLE), A., 425. oxidation by, in presence of sulphydryl compounds (Harrison), A., 699.

addition of, to silicie acid sols (Fells and Firth), A., 531. in biological oxidation (v. Szent-Györgyi), A., 76.

detection of, in beverages (Howard and Civen), B., 154.

phosphide. See Phosphorus trihydride.

sulphide, preparation of (HENWOOD and GAREY), (P.), B., 440. production of, by bacteria (MULSOW and PAINE; ALMY and James), A., 593.

effect of salts on removal of, from solutions (Descrez, Les-

CCUE, and MANJEAN), A., 115. removal of, from industrial gases (I. G. FARBENIND.), (P.), B., 331.

liquid, conductivity in solutions of (GUAM and WILKINSON), A., 419.

effect of immersion of iron and copper in (Fournier and FRITSCH-LANG), A., 636.

decomposition of (TAYLOR and PICKETT), A., 838.

velocity of reaction of sulphur dioxide with (TAYLOR and WESLEY), A., 318.

burning of, to sulphurous acid (NITZSCHMANN and VOGEL), B.,

conversion of, into sulphurous acid (SIEMENS AKT.-GES. and Вäнк), (Р.), В., 252, 358*.

detection of (WILMET), A., 221.

determination of, in producer gas (CIOCHINA), B., 465.

Hydrogen determination :determination of (BERL and BURKHARDT), A., 66. determination of, in gas mixtures (THORBURN), B., 803.

determination of small quantities of, in nitrogen (HEYNE), B.,

Hydrogen ions, mobility of (Ferguson and Vogel), A., 941. calculation of activity exponent of (KOLTHOFF and BOSCH), A.,

activity of, in mixed solvents (MILLET), A., 1028.

lowering of the order of reactions by (ROSENBERG), A., 524. hydratation of (BABOROVSKÝ and VELÍŠEK), A., 734.

concentration of, in relation to acid taste (DIETZEL), A., 20. in relation to reaction of aqueous solutions (FULMER), A., 516. in relation to titration acidity (Täufel and Wagner), A., 434. in relation to plasmolysis (PRAT), A., 20.

in relation to pharmacological effect (Jarisch), A., 20.

in pathology (SCHADE), A., 20.

molecular, quantum theory of (Unsöld), A., 919. direct-reading meter for (Pope and Gowlett), A., 1049. determination of (Lottermoser), A., 20; (Shaxey and Jones; WULFF), A., 221; (WOLF), A., 952; (STIRLEN), (P.), B., 239.

apparatus for (EMSLANDER), A., 743. standards for indicators for (TAUB), A., 533. determination of, colorimetrically (WALTHER and ULRICH), A., 284; (Schlegel and Stueber), A., 637.

determination of, colorimetrically, in coloured or turbid liquids (Rossée and v. Morgenstern), A., 533.

Hydrogen ions, determination of, electrometrically (Behrens), A., 124; (EMSLANDER), A., 637.

determination of, with the ionic concentration meter (KEELER and LEEDS & NORTHRUP Co.), (P.), B., 47.

determination of, with the quinhydrone electrode (ARND and SIEMENS), B., 56; (KOLTHOFF and Boson), A., 533; (CROWтнек), В., 856.

determination of, by inversion of sucrose (VINCENT), B., 422. determination of, in moving liquids (TODD), A., 637. determination of, in soils, by the quinhydrone electrode (HISSINK and VAN DER SPEK), B., 308.

Hydrogen number, determination of (OGAWA), A., 1212. Hydrolysis of organic compounds, effect of hydrogen-ion con-

centration on (OLIVIER and BERGER), A., 1181.

Hydromanganocyanic acid, potassium salt, reduction product of (Manchot and Gall), A., 220.

Hydrometers, acid-proof, compositions for (LINEBARGER), (P.),

glycerol (GRIFFITHS and AWBERG), A., 224.

aa-1-Hydromethylhydrastinylphenylacetic acid, ethyl ester (OBERLIN), A., 681.

Hydron-blue, dyeing with (JUSTIN-MUELLER; MICHEL), B., 474. Hydronaphthalenes, stereochemistry of (KAY and STUART), A.,

Hydrophthalic anhydrides, catalytic reduction of (MAZZA and DI Mase; Mazza and Cald), A., 664; (Mazza and Cremona), A.,

Hydrophthalides (Berlingozzi and Cione; Berlingozzi. MENNONNA, and PALMA), A., 560; (BERLINGOZZI and LUPO; Berlingozzi), A., 561.

Hydroplatinocyanic acid, salts, dehydration and hydration of (GAUBERT), A., 312.

magnesium salt, hydrates of (GAUBERT), A., 324. Hydroquinhydrone electrodes. See under Electrodes.

Hydroquinine bromocyanide, and cyano-, and its hydrochloride, and dicyano-, hydrobromide (Boehringer & Soehne, Roth-MANN, and HILCKEN), (P.), B., 828.

Hydrosols, production of (DUMANSKI, BUNTIN, and KNIGA), A.,

determination of size of particles in (ZSIGMONDY and CARIUS), A., 620.

Hydro-ψ-thiocyanic acid (Melis), A., 346.

as dve for cotton (MELIS), B., 742.

Hydroxamic acids, rearrangement of (Jones and Mason), A., 1185.

action of bromine on (DE PAOLINI), A., 135.

Hydroxides, amphoteric (Jander and Brüll), A., 122; (Schulz and JANDER), A., 619.

detection of, in hydrogels (WILLSTÄTTER and KRAUT), A., 17. See also Metallic hydroxides.

Hydroxy-acids, preparation of unsaturated ketones from chlorides of (Kon and Narayanan), A., 878.
manufacture of arylamides of (British Synthetics and

HIGGINS), (P.), B., 437.

of polynuclear hydrocarbons, manufacture of chlorides of (British Synthetics and Higgins), (P.), B., 903.

metallic derivatives of (WARK), A., 854. therapeutic action of bismuthyl derivatives of (Browning, COHEN, GULBRANSEN, PHILLIS, and SNODGRASS), A., 855. and their salts, influence of, on fermentation (KATAGIRI),

A., 700. a-Hydroxy-acids, Walden inversion in (Levene, Mori, and

Mikeska), A., 1171. condensation of, under influence of catalysts (IPATIEV and

RAZUBAIEV), A., 1053. polybasic, reduction of, under influence of catalysts (IPATIEV

and RAZUBATEV), A., 1054. esters, manufacture of (CANADIAN ELECTRO PRODUCTS Co.,

MATHESON, and BLAIKIE), (P.), B., 796. chloralides of (BÖESEKEN), A., 646.

Hydroxy-compounds, manufacture of (Essex, Ward, and Du Pont de Nemours & Co.), (P.), B., 733.

from primary amines (CRAWFORD and WILLSON), (P.), B., 772

Hydroxyl, band spectrum of (WATSON), A., 1122. Hydroxyl groups, co-ordination valency of (Fernandes), A., 52. displacement of amino-group in tertiary amino-alcohols by (McKenzie and Roger), A., 457.

reciprocal exchange of halogens and (Borsche and Feske),

A., 239.

Hydroxyl groups, comparative stability of secondary and tertiary (TIFFENEAU and LEVY), A., 153.

determination of, volumetrically (Peterson and West),

Hydroxyl ions, mobility of (FERGUSON and VOGEL), A., 941.

Hydroxylamine, catalytic decomposition of (Kurtenacker and WERNER), A., 320.

hydrochloride, reaction of, with carbylamines (Passerini), A., 868.

Hydroxytetramminecobaltic sulphite. See under Cobalt.

Hygrometer (ROMBERG and BLAU), A., 128.

Hygroscopic materials, treatment of (CARRIER ENGINEERING CORP.), (P.), B., 351.

Hymenomycetes, soluble enzymes secreted by (Lutz), A., 279, 906. Hyoscyamus, assay of tineture of (STIKAROVSKY), B., 266.

Hyoscyamine, determination of (PALKIN and WATKINS), B., 266. Hyperglycæmia, effect of alkali in diet on, during starvation (Hirsch), A., 1217.

under ether anæsthesia (Fujii and Takai), A., 73.

adrenaline, effect of eserine and pilocarpine on (SAKURAI), A., 589.

Hypericum perforatum, volatile oil of (MILLER), B., 858.

Hypnum triquetrum, oxidation of oxalic acid by means of (Houget, MAYER, and PLANTEFOL), A., 905.

Hypocholestene (FRÄNKEL and DOMBACHER), A., 872. Hypocholesterol (FRÄNKEL and DOMBACHER), A., 872.

Hypocholesteryl ether (FRÄNKEL and DOMBACHER), A., 872. Hypoglycæmia, hydrazine (Lewis and Izume), A., 171.

insulin, effect of cobalt on (Blatherwick and Sahyun), A., 1115.

influence of hexosephosphorie acids on (MARKS and MORGAN), A., 701.

influence of methylglyoxal and other intermediaries on (KER-MACK, LAMBIE, and SLATER), A., 282.

variation in phosphorus in muscle during (PIAZZA), A., 380.

Hypophosphoric acid. See under Phosphorus. Hypophosphorous acid. See under Phosphorus.

Hyposulphites. See under Sulphur.

Ice, manufacture of, for fish preservation (OSHIMA), (P.), B., 27. pure, separation of (van Laar), A., 21.

polymorphic properties of (BERZ), A., 411.

Ice-cream mixes, viscosity of (LEIGHTON and WILLIAMS), B., 375. determination of gelatin in (REMINGTON and McRoberts), B., 730.

Ignition, method of, in determinations of calorific value (KÜNLE), B., 354.

spontaneous, of inflammable liquids (TANAKA and NAGAI), B., 5.

of gases (Walls and Wheeler), B., 243.

by explosion (CAMPBELL and WOODHEAD), A., 115. by hot wires (SHEPHERD and WHEELER), B., 803.

Ignition meter, Moore (ORMANDY and CRAVEN), B., 98. Ignition point of fuels, significance of (EGERTON and GATES),

B., 738. of gases at different pressures (Dixon and Higgins), A., 115.

Illicium religiosum, sikimitoxin from (CHOU), A., 600. Illinium (Rolla and Fernandes), A., 190, 501, 611; (Noyes), A., 296, 714; (Brunetti), A., 296; (Hopkins), A., 814.

Röntgen-ray detection of (Brunetti), A., 714.

Illium-alloy, crucibles of vitreosil, platinum and, for determination of volatile matter in coal (Cooper and Osgood), B., 130.

Ilmenite, recovery of iron and titanium oxide from (TRAILL and McClelland), B., 282.

chlorination of (KRIEGER), B., 701.

a-Imino-acids (SKITA and WULFF), A., 765.

Imino-aryl ethers (Chapman), A., 874.

Imino-compounds, spectra of (HULTHEN and NAKAMURA), A.,

Immune substances, isolation of (Locke and Main), A., 1103. Immunisation (SBARSKY and NIKOLAIEV), A., 593.

detection of enzymic processes in (Kupelwieser; Kupel-WIESER and NAVRATIL; KUPELWIESER and SINGER; SINGER),

Impatiens noli tangere, constituents of (Zellner, Falkowsky, SPITZER, and TASCHNER), A., 598.

Impregnation compounds, manufacture of (GERLACH), (P.),

Indandione. See Diketohydrindene.

a-Indanone, preparation of (COMP. NAT. MAT. COLOR. & MANUF. PROD. CHIM. NORD RÉUNIS, COURTOT, and KROLIKOVSKI). (P.), B., 286.

Indanthrone, preparation of (BRITISH DYESTUFFS CORP., SHEPnerdson, and Hailwood), (P.), B., 697.

Indanthrones, halogenated, manufacture of (BRITISH DYESTUFFS Corp., Rogers, Stubbings, and Emerson), (P.), B., 550. Indanthronedisulphonic acid, preparation of (British Dyestuffs

Corp., Shepherdson, and Hailwood), (P.), B., 697.

Indazoles, 5-amino-, 7-chloro-6-amino-, and 4:5:7-trichloro-6-hydroxy-, and their salts and derivatives (FRIES and Тамрке), А., 783.

4-chloro-, and its derivatives, bromonitro-, chloronitro-, and 3-iodo-6-nitro- (v. Auwers and Demuth), A., 260.

Indazole-1-carboxylic acid, 6-nitro-, derivatives of (v. Auwers and DEMUTH), A., 260.

Indene, polymerisation of (Bruson), A., 654.

Indican, synthesis of, and its penta-acctyl derivative (ROBERTSON). A., 960.

Indicators, effect of hydrophilic colloids on colour changes of (GUTBIER and BRINTZINGER), A., 202.

Indicators, adsorbed, titration with (Hodakow), A., 743, 1029. mixed, use of, in analysis (Kolthoff), A., 1159.

organic, spectral transmission curves for (Mellon and Martin). A., 329.

Indigo compounds, preparation of (I. G. FARBENIND.), (P.), B., 648.

Indigo dyes, manufacture of (I. G. FARBENIND. and FARBW. VORM. MEISTER, LUCIUS, & BRÜNING), (P.), B., 772. green (I. G. FARBENIND.), (P.), B., 809.

and intermediates of the anthraquinone and anthracene series (Soc. Chem. Ind. in Basle), (P.), B., 360.

Indigosols, manufacture of, for dyoing and printing (DURAND & HUGUENIN and I. G. FARBENIND.), (P.), B., 772.

detection of complete development of, on wool (HIRST and King), B., 964.

Indigotin, substitution derivatives of (OVERMYER), A., 459. complex iron compounds of, and their sensitiveness to oxygen (Kunz and Kress), A., 366.

Indigotins, thio-, hexasubstituted (I. G. FARBENIND, and FARBW. VORM. MEISTER, LUCIUS, & BRÜNING), (P.), B., 360.

Indium, occurrence of, in tin (GREEN), A., 635.

excitation of spectrum of (Frayne and Jarvis), A., 602. absorption in under-water spark spectrum of (SMITH and

Muskat), A., 607. second spark spectrum of (RAO), A., 390.

ionised, series spectrum of (Lang), A., 911.

ionisation and resonance potentials in (Jarvis), A., 391.

influence of elastic deformation on superconductivity of (Sizoo and Onnes), A., 717.

and its alloys, purification of (BRITISH THOMSON-HOUSTON Co. and Boyer), (P.), B., 80. reaction of, with "aluminon" (Corey and Rogers), A., 219.

Indium chlorides, heats of formation of (KLEMM and BRÄUTIGAM), A., 830.

halides, ammines of (KLEMM), A., 831. solid, densities of (KLEMM), A., 812.

isoIndole, ring-closure of derivatives of, and of dihydroisoquinoline derivatives (MALAN and ROBINSON), A., 1199.

Indoles, catalytic synthesis of (Korczyński, Brydovna, and Kierzek), A., 255.

Indole series (Maurer and Moser), A., 255; (Alessandri and Passerini), A., 466.

mechanism of Grignard reaction in (MAJIMA and HOSHINO), A.,

Indole-2-carboxylic acid, 3-hydroxy-, methyl ester (Robertson), A., 960.

Indole-3-dithiocarbonic acid, and its salts and derivatives (Oddo and Mingoia), A., 158.

Indolinone rings and quinoline rings, relative stability of (AESCH-LIMANN), A., 256.

β-3-Indolylpropionhydrazide (Manske and Robinson), A., 256. β -3-Indolylpropionic acid, methyl ester, and its reaction with hydrazine hydrate (Manske and Robinson), A., 256.

 β -3-Indolylpropionic azide, decomposition of, by benzene (Manske and Robinson), A., 256.

Indones (DE FAZI), A., 1077

Indophenol, velocity of formation of (GIBBS), A., 870.

Indophenols, production of (DINWIDDLE and DU PONT DE NEMOURS & Co.), (P.), B., 627; (MAUSS and DU PONT DE NEMOURS & Co.), (P.), B., 810.

Indophenol dyes, blue (Orlov and Catchourine), B., 578.

Indoxan-4-azo-2'-aminonaphthalene (Lindemann, Könitzer, and ROMANOFF), A., 980.

Indoxazen, 4-amino-, 4-nitro-5-hydroxy-, and 4:6-dinitro-5hydroxy-, and their derivatives (LINDEMANN, KÖNITZER, and Romanoff), A., 980.

2-hydroxy-, and its derivatives (LINDEMANN and SCHULTHEIS), A., 262.

Indoxazens, formation and constitution of (LINDEMANN and PICKERT; LINDEMANN, KÖNITZER, and ROMANOFF), A., 980. Indoxazen-4-azo- β -naphthol (Lindemann, Könitzer,

Romanoff), A., 980. Indoxyl, thio-, derivative of (Soc. CHEM. IND. IN BASLE), (P.),

ψ-Indoxylspirocyclohexane, and its acetyl derivative, and 10-nitro-, (Betts, Muspratt, and Plant), A., 765.

Inductive capacity, specific, of heterogeneous mixtures (Errera),

Industry, chemical, electrometric control in (PARKER), B., 634.

Infant's food. See under Foods.

Inflammability, effect of pressure on limits of (NAGAI), A., 834. Influsoria, imitations of (HERRERA), A., 279.

Ingots, pit-furnace for re-heating (Kehren), (P.), B., 818. Inks, preparation of (BUNGE and FORSCHUNGSINSTITUT BERG-

WERRS & SPRENGSTOFFCHEMIE), (P.), B., 197. from dyes (I. G. FARBENIND.), (P.), B., 183.

dichroic (BITTINGER), (P.), B., 532.

dyeing (I. G. Farbenind).), (P.), B., 305.
Indian, effect of injection of, on sedimentation of blood-corpuseles and plasma proteins (Tsunekawa), A., 172.
printing, production of (Ludwigsen), (P.), B., 452.

ingredient for (CAUGHLAN), (P.), B., 305. arsenic in (BARRY), B., 371; (MORRELL and SMYTH), B., 971. writing, manufacture of (I. G. FARBENIND.), (P.), B., 387.

yellow, for marking rubber (Cashion), B., 147.

Inositolphosphoric acid, calcium salts, manufacture of (Soc. CHEM. Ind. in Basle), (P.), B., 860*, 893*.

Insects, cutaneous framework of (SCHMALFÜSS and MÜLLER), A., 586.

blood-sugar of (Blumenthal), A., 1214.

relative distribution of glutathione in (Fink), A., 691.

determination of arsenic in (FINK), A., 600. Insect eggs. See under Eggs.

Insecticides (Goodwin and Latimer-Goodwin Chem. Co.), (P.) (GRAESSER-MONSANTO CHEMICAL WORKS and B., 56; MAXWELL-LEFROY), (P.), B., 94; (HOWARD AND GRASSELLI CHEMICAL Co.; LIESKE, THAUSS, BONRATH, AND WINTHROP CHEMICAL Co.), (P.), B., 311; (I. G. FARBENIND.), (P.), B., 311; 344; (BOYNTON AND E.-Z.-WAY CO.), (P.), B., 344; (HEDENBURG, PRATT, and Toledo REX SPRAY Co.; LIIP-FERT and GEN. CHEMICAL Co.; PIVER), (P.), B., 536; (C. A. and S. D. WILKINS), (P.), B., 612. preparation of (SCHMITZ and TINOLAN Co. of AMERICA), (P.),

B., 121.

increasing the adhesiveness of (I. G. FARBENIND.), (P.), B., 233; (I. G. FARBENIND. and FARBENFABR. VORM. BAYER & Co.), (P.), B., 344.

hydrocyanic acid as (LAINE), (P.), B., S26.

lubricating oils as, in dormant spraying (GREEN), B., 760. materials serving as fertilisers and (LANGE), (P.), B., 536.

relation between constitution of organic compounds and toxicity as (TATTERSFIELD), B., 453.

containing finely-divided arsenic, borax, or p-dichlorobenzene, analysis of (François and Séguin), B., 974.

containing lactonitrile (CHRISTMANN and AMERICAN CYANAMID Co.), (P.), B., 374.

for washing animals (AKT.-GES. FÜR ANILIN-FABR.), (P.), B.,

arsenate, manufacture of (WALKER), (P.), B., 567.

contact (TATTERSFIELD, GIMINGHAM, and MORRIS), B., 86 (RICHARDSON and SMITH), B., 199; (TATTERSFIELD and GIMINGHAM), B., 826.

determination of copper in, in presence of arsenic, iron, and mercury (Bodnár and Terényi), B., 30.

determination of polysulphide sulphur in (BODN in and GERVAY), B., 856. 24

Insecticides, determination of toxic substances in (BODNAR and GERVAY), B., 856.

Insulating compositions, manufacture of (FRIEDLANDER), (P.), B., 811.

moulded phenolic (Peakes and Bakelite Corp.), (P), B., 17. Insulating layers, dielectric strength of, on wires (Internat. Gen. ELECTRIC Co. and ALLOEM. ELEKTRICITÄTS-GES.), (P.), B., 727. Insulating liquids. See under Liquids.

Insulating materials (Soc. Anon. Cimenti), (P.), B., 333; (Sort-WELL and STAR PORCELAIN Co.), (P.), B., 557.

production of, from minerals containing magnesium (ZIMMER-MANN), (P.), B., 882.

metallisation of (Dubilier Condenser Co. and Pfiffner), (P.), B., 390.

for condensers (Lahousse), (P.), B., 519.

composite, manufacture of (ARNESEN and BECH), (P.), B., 843. electrical (Scanes and Metropolitan-Viokers Electrical Co.), (P.), B., 561; (Western Electric Co.), (P.), B., 562; (GÜNTHER-SCHULZE), B., 785, 881.

electrical and heat (OKURI), (P.), B., 607.

heat, production of (GARD), B., 351; (SCHEIDEMANDEL and SCHEIDEMANDEL), (P.), B., 751.
moulded (Cutler-Hammer Manuf. Co.), (P.), B., 257.

resinous, manufacture of (SIEMENS-SCHUCKERTWERKE), (P.). B., 452.

Insulating paper containing phenol resins (HAANEN and FELTEN & Guilleaume Carlswerk), (P.), B., 519; (Felten & GUILLEAUME CARLSWERK), (P.), B., 599.

dry packing (Bohle and Schröder), (P:), B., 66.

clectrical, manufacture of bodies for (SUTHERLAND), (P.), B.,

heat, slabs for (Anderson), (P.), B., 898.

devices and materials for (SCHMIDT and DYCKERHOFF), (P.), B., 240, 321.

submarine, use of rubber in (WILLIAMS and KEMP), B., 149. Insulators, electrical, manufacture of (Brown and Silimanite Insulator Co.), (P.), B., 47; (ÖSTERREICHISCHE SIEMENS-SCHUCKERTWERKE), (P.), B., 339. liquid (Rodman and Westinghouse Electric & Manuf. Co.),

P.), B., 727.

Insulin, preparation of (SORDELLI), A., 994.

production of, from stimulation by dextrose (GRAFE and MEYTHALER), A., 1115.

extraction and purification of (BLATHERWICK, BISCHOFF, MAXWELL, BERGER, and SAHYUN), A., 485; (ARSEM and INDUSTRIAL TECHNICS CORP., (P.), B., 499. purification and properties of (Dickens, Dodds, Lawson,

and MacLagan), A., 701. crystalline (Abel, Geiling, Rouiller, Bell, and Winter-

STEINER), A., 701. action of ultra-violet light on (ELLIS and NEWTON), A., 78;

(Burge and Wickwire), A., 594. chemistry of (PENAU and BLANCHARD), A., 175.

cobalt and nickel in (Bertrand), A., 594.

hydrolysis of (ARSEM and INDUSTRIAL TECHNICS CORP.), (P.), B., 499.

action of dextrose on (Du Vigneaud), A., 701.

liberation of hydrogen sulphide from, by action of hydrogen (Kühnau), A., 795.

effect of, on hydrolysis of fructosephosphoric acid (Forrai), A., 1222.

experiments with, in vitro (GLASER and HALPERN), A., 77. injection of, intrathecally (SUPNIEWSKI, ISHIKAWA, and GEILING), A., 994.

and co-zymase (Virtanen), A., 78.

action of (GRAFE, REINWEIN, and SINGER), A., 282; (BALTZER,

GRAFE, and PARTSCH; v. ISSEKUTZ), A., 594. on constituents of blood (VIRTANEN and KARSTRÖM), A., 282. on calcium in blood (BROUGHER), A., 594.

in diabetes (Häusler and Loewi; Dietrich, Häusler, and Loewi), A., 795; (Dietrich), A., 1222.

on enzymes (Sammartino), A., 380.

on fat metabolism (Hepner and Wagner), A., 1222. on gastric secretion in diabetes (CANNAVO), A., 594.

on hypophysectomised dogs (Geiling, Campbell, and ISHIKAWA), A., 994.

on the mammalian heart (VISSCHER and MULLER), A., 380. on the perfused heart (Bodo and Marks), A., 994. on permeability of human kidneys (ELIAS and GÜDEMANN),

A., 282.

Insulin, influence of, on formation of liver- and muscle-glycogen (BARBOUR, CHAILOFF, MACLEOD, and ORR), A., 594.

inhibition of phosphate excretion by (BARRENSCHEEN and

Berger), A., 1222.

rôle of, in protein metabolism (Janney and Shapiro), A., 282. effect of, on respiratory exchanges of decapitate and decerebrate cats (TAYLOR and OLMSTED), A., 78.

on respiratory exchange in frogs (OLMSTED and HARVEY), A.,

on respiratory exchange of fed and fasting rabbits (CHAIKOFF and MacLEOD), A., 795.

protection of, against enzymes by saponin (LASCH and BRÜGEL), A., 380.

effect of, on assimilation and excretion of sugars (EDA), A., 903; (Basch and Pollak; Pollak; Phillips), A., 1115.

effect of sugar derivatives on symptoms caused by (HYND), A.,

production of hypoglycamia by administration of (Hoskins and Snyder), A., 1222.

removal of hypoglycemia caused by (SILBERSTEIN, FREUD, and Révész), A., 380.

hormone antagonistic to (Häusler and Loewi; Dietrich, Häusler, and Loewi), A., 795.

determination of, in blood, and its increase after dextrose administration (Häusler and Loewi), A., 795.

Insulin-A and -B (FUNK), A., 594.

Interfaces, chemical action at (ACHAR and USHER), A., 931. gas-liquid, adsorption at (McBain and Davies), A., 1022.

Interfacial tension, plastic films in measurements of (KURTZ), A.,

Interferometer, sonic (HUBBARD and LOOMIS), A., 849.

Internal pressure. Sec Pressure, internal.

Interrupters, mercury, carbon dioxide in (PARANJPE and TENDUL-KAR), A., 747.

Intertraction (WRIGHT), A., 520.

Intestines, influence of free fatty acids in, on absorption and excretion of mineral elements (Telfer), A., 896.

dextrose and salt solutions from Thiry-Vella loops of (WHITE and RABINOVITSCH), A., 1107.

Inulin (SCHMID and BILOWITZKI), A., 342, 861.

acetate, cryoscopic behaviour of (Hess and Stahn), A., 753. cryoscopy of (BERGMANN, KNEHE, and v. LIPPMANN), A., 1173.

Invar, influence of cold-working and annealing on magnetic properties of (BIÉLER-BUTTICAZ), B., 368.

Invertase of sugar-beets poor in potassium (Doby and Hibbard),

regeneration of, from carriers (Fodor and Epstein), A., 792. hydrolysis of concentrated solutions of sucrose by (INGERSOLL), A., 901.

Iodates, Iodic acid, and Iodides. See under Iodine.

Iodination (VARMA and KULKARNI; VARMA and PANICKAR), A., 452. Iodine, occurrence of, in meteorites and ores (v. Fellenberg), A.,

spectrum of, in the electrodeless discharge (Robertson and FINDLAY), A., 803.

displacement of lines in (ASAGOE), A., 602.

absorption spectrum and pleochroism of (Bovis), A., 607. Röntgen-ray absorption spectrum of (Chamberlain and Lindsay), A., 1118.

low-voltage arc spectra of (FRUTH and DUFFENDACK), A., 1118. fluorescence and absorption spectra of (Loomis), A., 187, 1124. extinction of fluorescence of (RAMSAUER), A., 187.

electrochemistry of (FINKELSTEIN), A., 24.

critical potential of (Kondrattev and Leipunski), A., 1000. crystalline structure of (Ferrari), A., 611.

molecules, size of (Topley), A., 95. thermal dissociation of (De Vries and Rodebush), A., 415. adsorption of, by carbon in viscous media (Weissenberger and Fränkel), A., 198.

equilibrium of, in solvents forming brown solutions (Gróн, RADVÁNYI, URBANEK, and LÁNYI; GRÓH and SZELESTEY), A., 728.

reaction between acetone and, in buffer solutions (BERGSTEIN), A., 321.

reaction between aluminium, ethyl alcohol, water, and (Jones and GREEN), A., 538.

effect of light on the action of ferrous salts with (KISTIAKOVski), A., 528.

reaction of, with potassium chlorate (Putochin), A., 529.

Iodine, reaction of starch with (GORBATSCHEV and VINOGRADOVA),

action of, on yeast (Soharrer and Schwartz), A., 903.

loss of, from iodised salt (Johnson and Herrington), B., 813.

biochemistry of (Weiser and Zaitschek), A., 989. biological value of (MAURER and DIEZ), A., 169, 481.

distribution of, in nature, and its physiological significance (STOKLASA, DVOŘÁK, BAREŠ, ŠILHAVÝ, and ŠTRUPL), A., 171. content of, in edible plants (SCHARRER and SCHWAIBOLD), A.,

content of rocks in relation to incidence of goitre (WILKE-Dörfurt), A., 642.

elimination of, after administration (Greenbaum and Raiziss), A., 481.

effect of injection of, on fat in blood (Büssem), A., 1219.

effect of, on milk secretion (SCHARRER), A., 372.

on protein and sodium chloride equilibria in man (SLAUCK),

colloidal (CHANDLER and MILLER), A., 823.

Iodine acids, detection of, in presence of bromine and chlorine acids (Chamot and Mason), A., 744.

Hydriodic acid, boiling point and condensation curves of aqueous mixtures of (CARRIÈRE and DUCASSE), A., 104.

photochemical decomposition of (Lewis), A., 428.

electrolytic dissociation of, in methyl alcohol (Hlasko and Kamienski), A., 625.

kinetics of oxidation of, by oxygen (BERTHOUD and NICOLET), A., 736.

action of, on sulphur organic compounds (Nellensteyn), B.,

Iodides, manufacture of (CHEMNITIUS), B., 813.

action of atmospheric oxygen on acid solutions of (K. and W. Böttger), A., 330.

catalysis of the reaction between persulphates and (v. Kiss and v. Zombory), A., 632.

detection of, alone and in presence of bromides (v. Mikó), A.,

soluble, determination of (Spencer and Smith), A., 638. determination of, with adsorption indicators (Kolthoff), A.,

determination of, with iodate (Kolthoff), A., 125.

determination of, with permanganate (HAHN and WEILER), A., 124.

determination of, volumetrically (Jones), B., 554.

determination of, in halide mixtures (Baines), B., 813. determination of, in presence of bromides and chlorides (Berg), A., 124.

determination of, in presence of chlorides by Fajans' method (Kolthoff), A., 435.

separation and determination of mixtures of bromides, chlorides, and (CHICK), B., 651.

Iodic acid, oxidation by (WARBURG), A., 116.

Iodates, kinetics of reaction between sulphites and (SKRARAL and ZAHORKA), A., 319.

determination of, gasometrically (VAN SLYKE, HILLER, and Berthelsen), A., 1228.

Iodine organic compounds, elimination of, by bile and urine (IBUKI), A., 990.

Iodine detection and determination :-

detection and determination of, in urine and organs (Eschen-BRENNER), A., 895.

determination of small quantities of (Meerburg), A., 1160. effect of sodium hydrogen carbonate on determination of, with

thiosulphate (SCHUPP), A., 1045. determination of, microchemically, in beverages and foods

(Settimj), B., 958. determination of, in mother-liquor and in wash-liquors (SMITH).

B., 701. determination of, colorimetrically, in urine (Yoshimatsu and Sakurada), A., 586.

Iodine value, determination of (BÖESEKEN and GELBER), B., 427. according to the German Pharmacopæia (BAUER and Manicke), B., 417.

"Iodipin," fate of, injected intravenously (v. Bodó and Scheffer; Scheffer), A., 990.

Iodometry (K. and W. Böttger), A., 222, 330, 332.

Ions, prediction of physical properties of (PAULING), A., 394. size of, and their relation to crystal structure (Cuy), A., 191; (Pauling), A., 399.

colour and magnetism of (Joos), A., 94.

Ions, velocity of, in air (Busse), A., 4. mobilities of, and their water sheaths (REMY), A., 1032. in gaseous mixtures (MAYER), A., 1001. in methyl alcohol (HARTLEY and RAIKES), A., 1032. in non-aqueous solvents (ULICH), A., 1032. in salt solutions, potential of (BUTLER), A., 316. free energy of mixtures of (KRAMERS), A., 626. stabilisation of, and their adsorption (Rossi and Osti), A., 107. adsorption of, by glass (Devaux and Aubel), A., 408. by sols (DHAR), A., 1021. simultaneous adsorption of, from solution (MEHROTRA and SEN), A., 408. volume of, and hydration (DHAR), A., 111. hydration of (Gapon and Haskes), A., 922; (Baborovský), A., 1140. association of (BJERRUM), A., 314. neutral salt action in reactions between (v. Kiss and Bruck-NER), A., 945. influence of, in biological research (v. Neergaard), A., 284. electrolytic. See Electrolytic ions. gaseous, cluster formation in (Busse), A., 392. positive, emission of (KOETHER; SCHMIDT), A., 397. by mixed oxides (KUNSMAN), A., 180. positive and negative gaseous, structure and mobilities of (LOEB and Cravath), A., 1119. small, activity coefficients of (MÜLLER), A., 626. unimolecular, in air (Busse), A., 1119. Ionisation of polyhydric acids (Morton), A., 1026. of atoms by electrons (Penning; Lawrence; Smyth, Harn-WELL, HOGNESS, and LUNN), A., 85. by collisions (HARNWELL; HUXLEY), A., 709. in collisions between atoms and electrons (Penning), A., 1002. of strong electrolytes (LA MER), A., 828. of weak electrolytes, complex ion formation in (MEERWEIN), A., 836. in flames (Bennett), A., 188. in mixed gases (HARNWELL; DUFFENDACK and SMITH), A., in spherical containers (Broxon), A., 87. thermal, of elements (SAHA, SUR, and MAZUMDAR), A., 180. Ionisation coefficient of fused salts (Lowry), A., 521. Ionisation potential, relation of, to physico-chemical properties (PERRAKIS), A., 391. and energy relationships (MILLIKAN and Bowen), A., 912. Ipecacuanha alkaloids (SPATH and LEITHE), A., 471; (BRINDLEY and Pyman), A., 682. Iridium, precipitation of, from solutions, by hydrogen under pressure (IPATIEV and ANDREEVSKI), A., 844. Iridium salts, hydrazine compounds with (Tschugaev), A., 1157. Iridium detection, determination, and separation: detection of, and its determination in platinum (Chlopin), A., separation of platinum and (KARPOV), A., 1162. Iris, sugars in (Colin and Augem), A., 1116. Iron, manufacture of (WESTBERG), (P.), B., 46, 492*. pure (I. G. FARBENIND.), (P.), B., 144, 527, 682; (LONGMUIR),

B., 781.

production of (Cornelius), (P.), B., 193; (Gustafsson), (P.), B., 783.

in the blast-furnace (KINNEY), B., 412. theory of (Wüst), B., 816.

thermodynamics of (FALCKE), B., 191.

alkali cyanides in (KINNEY and GUERNSEY), B., 413. from ores (Parsons, Peacock, and Metal Research Corp.),

(P.), B., 46; (WUST), B., 630. and its alloys, dense, production of, from oxide ores (Cornelius), (P.), B., 527.

and its alloys with cobalt and nickel, electrodeposition potentials of (GLASSTONE), A., 24.

and its alloys, purification of (WESTBERG), (P.), B., 46. apparatus for separation of slag from (DIEDRICH), (P.), B., 338. influence of hydrocarbons on carburisation of (Bramley and LAWTON), B., 844.

cementation of (Bellak), (P.), B., 302. with boron (Feszczenko-Czopowse), B., 278.

by methane (Schenk, Krägeloh, Eisenstecken, and Klas), A., 939.

gaseous cementation of (BRAMLEY and JINKINGS; BRAMLEY and Beeby), B., 485; (Bramley and Lawton), B., 844. pure, effect of grain size on hardness of (Ishigaki), A., 716.

Iron, effect of cold-working on hardness and density of (ISHIGAKI), B., 277.

twisted and bent, changes in solubility and hardness of (GARRE), B., 581.

crystals, single, effect of cold-work on structure and hardness of, and changes produced by subsequent annealing (PFEIL), B.,

effect of cold-working and annealing on magnetic properties of (BIÉLER-BUTTICAZ), B., 368.

case-hardening of (Roche and Della Porta), (P.), B., 846. heat treatment of (AUTOMATIC & ELECTRIC FURNACES and

Wild), (P.), B., 369. impact testing machine for (SMITH and WARNOCK), B., 782. variation in quality of, with varying ash in coke (GILL), B., 781. absorption spectrum of (MEGGERS and WALTERS), A., 910.

ultra-violet spark spectrum of (STUHLMAN), A., 998. secondary arc spectrum of (Kleinewevers), A., 491.

K-series spectrum of (LARSSON), A., 603. spark spectrum of (Russell), A., 490.

ultra-violet are and spark spectra of (L. and E. Bloch), A., 177. absorption of X-rays by (Martin), A., 912.

emission of H-particles from, bombarded with a-particles (STETTER), A., 491.

magnetic properties of crystals of (Webster), A., 11, 505; (Dussler and Gerlach), A., 924.

magnetisation and magnetostriction of single crystals of (Honda and Kaya), A., 298; (Honda and Mashiyama), A., 299. Hall effect in crystals of (Webster), A., 926.

magnetic permeability of (WAIT), A., 505. magnetic transformation of (WEVER), A., 627.

magnetic properties of evaporated films of (EDWARDS), A., 299. and its alloys with carbon, dilatometric and magnetic researches on (ESSER), B., 278.

magnetic transformations in mixtures of, with the sesquioxide (Huggett and Chaudron), A., 207.

non-magnetic films of (HANAWALT and INCERSOLL), A., 192; (JACKSON), A., 299.

hot-cathode vacuum discharges in vapour of (Wolf), A., 909. pure, method of increasing the resistance of (SIEMENS & HALSKE), (P.), B., 223

specific heat of (OBERHOFFER and GROSSE), B., 389. addition of coal dust in melting of, in a cupola (BARDENHEUER

and Kaiser), B., 781.

protection of melts of, in furnaces or converters, from oxidation and adsorption of gases (ZWIEBEL), (P.), B., 753. molten, density of (BERLIN), B., 487.

temperature measurements in (Wenzl and Morawe), B., 631. plant for treatment of (MARKS and New Process Multi-CASTINGS Co.), (P.), B., 369.

removal of sulphur from, by means of fluorides (WILKE-DÖRFURT and BUCHHOLZ), B., 111.

rate of evaporation and vapour pressure of (Jones, Langmuir, and Mackay), A., 927.

sublimation of, in a vacuum (Botolfsen), A., 1045. micro-structure of (SMITHELLS and ROOKSBY), A., 816.

crystals of (McKeehan), A., 502.

large crystals of, and their deformation (Pfeil), B., 486. influence of rolling on crystal structure of (TAMMANN and HEIN-ZEL), A., 1130.

influence of time and temperature on mechanical fracture of large crystals of (SAUERWALD and ELSNER), A., 1017. recrystallisation of (Hanemann), B., 334.

permeability of (GUTTON and MIHUL), A., 614. to hydrogen (LOMBARD), A., 727.

diffusion of carbon and nitrogen into (Bramley and Jinkings; Bramley), B., 485.

solubility of carbon in (YAMADA), B., 278.

solubility of, in mercury (TAMMANN and KOLLMANN), A., 303. colouring of, brown (LANGBEIN-PFANHAUSER-WERKE), (P.), B., 194.

equilibria in reduction, oxidation, and earburation of (Schenck, KRÄGELOH, EISENSTECKEN, and KLAS; SCHENCK, KRÄGE-LOH, and EISENSTECKEN), A., 939; (SCHENCK and DING-MANN), A., 1030.

and its oxides, equilibria of, with carbon and its oxides (Iwasé),

oxidation of, by steam, air, and carbon dioxide (Fedotkev and Petrenko), B., 15, 192.

deoxidation of, with manganese (OBERHOFFER and SCHENCK), B., 966.

(Moser

751.

Iron, grey, east, growth of (Pearson), B., 485. Iron, passivity of (Evans), A., 619. graphite in (BARDENHEUER), B., 526. periodic passivity of (HEDGES), A., 25. passive, current-potential ourves of (MULLER), A., 735. effect of nickel on (WICKENDEN and VANICK), B., 191. theory of corrosion and protective film on (FUJIHARA), B., 967. malleable, manufacture of (KUBO), (P.), B., 726*. white, influence of carbon and silicon on graphitisation of corrosion of (RUTHVEN), B., 111. CHEVENARD and Portevin), B., 110. by mixed saline solutions (GIRARD), B., 581. white-heart malleable, influence of manganese on properties of by water (Lührig), B., 462. in tap water (TILLMANS, HIRSCH, and WEINTRAUD), B., 843. (TAYLOR), B., 486. catalytic, for ammonia synthesis (ALMQUIST and CRITTENDEN), prevention of (Coslett), (P.), B., 116*. in contact with water or hydrocarbons (MARTINEAU), (P.), B., 72. poisoning action of oxygen on (Almouist and Black; B., 256. relative corrodibilities of commercial forms of (FRIEND), B., 843. Almquist), A., 29. electrolytic, influence of ageing and annealing on magnetic viscosity of (LAPP), B., 845. coating of (BAUR), (P.), B., 371. and its alloys, coating of, with metals (STRASSER), (P.), B., 848*. corrosion-resisting coatings on (Jones, Atuesta, and Gen. Electric Co.), (P.), B., 194; (Humphries and Metals Protection Corp.), (P.), B., 194, 223; (Langbein-Pfanhausermagnetic properties of (RUER), A., 925. standardisation of permanganates Schöninger), A., 332. low-carbon, production of (Cornelius), (P.), B., 448. WERKE), (P.), B., 223. pickling and scaling of (WÜRKER), (P.), B., 15. treatment of (KRUPP A.-G.), (P.), B., 912. meteoric. See Meteoric iron. in sulphuric acid (SCHMIDT, LEE, and NEWPORT Co.), (P.), pig, manufacture of, by the blast-furnace process (UHLMANN), B., 142. B., 113. plating of (Summers and Locomotive Terminal Improvement production of (Kilian), (P.), B., 783; (Verein. Stahlwerke; Co.), (P.), B., 705. rust-proofing of (PARKER RUST-PROOF Co.), (P.), B., 658; Frankl), (P.), B., 819. production of cement and, in the blast furnace (Hochofen-(GREEN, WILLARD, and PARKER RUST-PROOF Co.), (P.), B., WERK LÜBECK ABT. ROLANDSHÜTTE), (P.), B., 605. 785*. influence of blast-furnace conditions on total carbon content of reaction region for aluminium, sulphur, and (Jorissen and (MICHEL), B., 679. refining of (MAXIMOFF, DE COSTA, and KREBS), (P.), B., Ongkiehong), A., 112; (Jorissen and Groeneveld), A., 314. action of pure carbon monoxide on, at high temperatures (FISHEL and WOODELL), B., 525. 912. elimination of phosphorus from (Gelsenkirchener Berowerks), (P.), B., 302. effect of formaldehyde on solution of, in acids (BATTA), A., 118. effect of immersion of, in liquid hydrogen sulphido (Fournier determination of oxide inclusions in (OBERHOFFER and and Fritsch-Lang), A., 636. presence of iodine in (LUNDE and v. FELLENBERG), B., 845. Ammann), B., 967. determination of silicon in (PINSL), B., 45; (STADELER), B., reduction of nitro-compounds with soluble chlorides and (LYONS and SMITH), A., 234. pyrophoric, adsorption of hydrogen and carbon dioxide by oxygen in (OBERHOFFER, SCHIFFLER, and HESSENBRUCH), B., (Nikitin), A., 406. rustless, production of (CAUGHEY and EDGEWATER STEEL Co.), (P.), B., 302; (BERLIN and ARTIEB. FERROLEGERINGAR), (P.), sulphur in (CIOCHINA), B., 167. recovery of, from ores (TRAILL and McCLELLAND), B., 282; B., 528*; (YORKE), B., 679. (MABEE and SMAILL), B., 283. sheet, enamelling of (TOTOT-GIBARU), (P.), B., 779. in nutrition (ELVEHJEM, HERRIN, and HART), A., 272. in liver, spleen, and blood during scurvy (RANDOIN and MICHAUX), A., 994. theory of pickling of, for enamelling purposes (STALEY), B., Iron, active (Simon, Kötschau, Gutmann, and Buss), A., 843. silicon-, manufacture of (BROWNE), (P.), B., 448, 785*, 848*. sponge (Copper Separation and Nevill), (P.), B., 336. Armoo, mechanical properties of (Tapsell and Clenshaw), B., manufacture of (Nevill), (P.), B., 657; (Percy and Harris), path of fatigue failure in (Lucas), B., 605. (P.), B., 941. stainless, colouring of (HATFIELD and GREEN), (P.), B., 783. black-heart malleable, embrittlement of (ALLEN), B., 14. cast, manufacture of (Large), (P.), B., 783. use of, in chemical plant construction (MITCHELL), B., 879. with finely-divided graphite, manufacture of (Gelsen-kirchener Bergwerks), (P.), B., 605. tinned, rotary transporter for plant used in detinning (ADAM), (P.), B., 848. transformer, effect of rolling and annealing of, on wattage losses with high manganese content, from manganiferous ores (EICHENBERG and OERTEL), B., 335. (Ѕмітн), В., 486. structure and strength of (NEUMANN), B., 844. wrought, manufacture of (GEDDA), (P.), B., 46; (BLESSING), (ř.), B., 79. physical structure of (Howell), B., 254. effect of overheating on structure and properties of (MEYER), determination of slag and oxides in (WESCOTT, ECKERT, and B., 254. EINERT), B., 939. properties and heat-treatment of (COYLE), B., 967. Iron alloys (CAMMEN), (P.), B., 114; (DRUMMOND and PACIFIC CAST IRON PIPE & FOUNDRY CO.; FLODIN and GUSTAFSSON). growth of (Schwinning and Flössner), B., 725. on heating (Benedicks and Lörquist), B., 445. (P.), B., 337. dilatation of, during heating and cooling (HIGGINS), B., 485. effect of annealing on phosphide eutectic in (PINSL), B., 368. research on (Rosenhain; Adcock; Gayler; Tucker), B., 444; (HAUGHTON), B., 445. transverse tests on bars of (Adamson and Bell), B., 844. manufacture of (HAMILTON and EVANS), (P.), B., 79. gas-fired enamelling furnaces for (READ), B., 749. passivity of (Dony-Hénault), A., 427. welding of (Böhler & Co.), (P.), B., 194. electrical and thermal conductivities of (Masumoto), A., 820. with little tendency to rust (CORNELIUS), B., 194. ferrous, wear-resisting (FIELD, FRANKS, and HAYNES STELLITE surface tension of (Drath and Sauerwald), A., 723. Co.), (P.), B., 448. nickel and nickel-chromium in (EVEREST), B., 703. high-resistance unoxidisable (Kamishima), (P.), B., 605. magnetic (Gumlich), (P.), B., 560. rustless_cast (Merica, Vanick, and Internat. Nickel Co.), determination of carbon in (MACKENZIE), B., 167, 191. determination of graphite and combined carbon in (Burrord and BAADER), B., 111. (P.), B., 415. determination of silicon in (PINSL), B., 45. stainless (Yonezu), (P.), B., 169. determination of manganese in (DE Luisi), B., 191. and pig, oxygen in (OBERHOFFER and PIVOVARSKY), B., 368. grey, manufacture of (HANEMANN), (P.), B., 819. with aluminium and silicon, constitution of (GWYER and PHILLIPS), B., 968. theory of overheating phenomena in (Hanemann), B., 678. castings of, of definite thickness (MASCHINENFABR, ESSLINwith aluminium and titanium (FLINTERMANN and GEN. ELECTRIC GEN), (P.), B., 560. Co.), (P.), B., 819. effect of heat-treatment on combined carbon in (Roth), B., with antimony, magnetic (ZICKRICK and WESTERN ELECTRIC

Co.), (P.), B., 783.

Iron alloys with carbon, magnetic susceptibility of (Honda and Endo), A., 1130. solidus and solubility lines in (Honda and Endo), A., 720. A3 transformation in (Schwartz), B., 630. behaviour of iron carbide in (Evans and Hayes), B., 630. influence of nickel and silicon on (EVEREST, TURNER, and Hanson), B., 782. with carbon and chromium (SAUERWALD, NEUDECKER, and RUDOLPH), A., 517. with carbon and manganese, low-earbon (HADFIELD), B., 446. with carbon and silicon (HANSON), B., 782. with carbon and vanadium for Brinell balls (QUICK and JORDAN), B., 752. with chromium (Penniman and Shackelford), (P.), B., 338*; (SHACKELFORD, PENNIMAN, CAIN, and RADIAC METALS), (P.), B., 390. manufacture of (SAKLATWALLA), (P.), B., 448. with chromium and nickel, analysis of (HARVEY), B., 879. with cobalt, thermal expansion of (MASUMOTO and NARA), A., equilibria of (MASUMOTO), A., 21. with cobalt and nickel (KASÉ), A., 830; (WALTER), (P.), B., with copper (Kelly), (P.), B., 632. miscibility of (MULLER), A., 627; (RUER), A., 928. with manganese, manufacture of, having low carbon content (NILSON), (P.), B., 942. low-carbon, thermal changes in (HADFIELD), B., 558. with nickel, electrodeposition of (GLASSTONE and SYMES), A., magnetostriction of (MASUMOTO and NARA), A., 720. magnetic (Bell Telephone Laboratories), (P.), B., 144. for metallic moulds (BAURET, PORTEVIN, and CHEVENARD), with phosphorus (HAUGHTON), B., 445. with silicon (MURAKAMI), A., 830. with vanadium (Jordan, Quick, and United States of America), (P.), B., 783. with zinc, electrodeposition potentials of (GLASSTONE), A., 422. See also Ferrocerium, Ferrochromium, Ferromanganese, Ferronickel, Ferrophosphorus, Ferrosilicon, and Ferrotungsten. Steel, manufacture of (Speller), (P.), B., 369; (Wills and SMITH), (P.), B., 447; (WESTBERG), (P.), B., 492*; (GUSTAFSSON; LARGE), (P.), B., 783. in "one process" (SMALLEY and HODSON), B., 781. in open-hearth furnaces (W. and H. MATHESIUS), (P.), B., 911. by the basic open-hearth process (Schueler), (P.), B., use of limestone and burnt lime in (HERTY), B., 488. relation between slagging of iron and of manganese in (FAUST), B., 910. from carbonisation of scrap iron (HENNEKE), B., 525. in India (YANESKE), B., 581. refining of (MAXIMOFF, DE COSTA, and KREBS), (P.), B., 912. dendrites and grain formation in (Krivobok), B., 77. influence of grain size on mechanical properties of (HANE-MANN and HINZMANN), B., 844. importance of cementite in (GUTHRIE), B., 679. protection of melts of, in furnaces or converters, from oxidation and adsorption of gases (ZWIEBEL), (P.), B., 753. effect of electrolytic hydrogen on tensile strength of (Alexéev and Polukarov), B., 222. low-temperature impact tests of (Yamada), B., 143. hardening of (HANEMANN), B., 14. bath for (Kröning and Boës; GLOCKENSTAHLWERKE A.-G. VORM. LINDENBERG and SCHRÖDER), (P.), B., hardness of constituents in (TAMARU), B., 277. theory of hardening and tempering of (HARDER and DOWDELL), case-hardening of (COMMIN and SNOOK), (P.), B., 257; (HÉBERT), B., 278; (PACHER), (P.), B., 726*. work-hardening of, by abrasion (HERBERT), B., 968.

changes of volume in cold-working of (HOUDREMENT and BÜRKLIN), B., 143.

effect of cold-working on hardness and density of (Ishigaki),

effect of cold-working and annealing on magnetic properties

B., 277.

of (BIELER-BUTTICAZ), B., 368.

Steel, tempering of (Matsushita and Nagasawa), B., 781. with hydrogen (Gelsenkirchener Bergwerks), (P.), B., detempering of (Lewis), (P.), B., 15. fragility of (REGNAULD), B., 967. influence of compression on (Dejean), B., 222. temper-brittleness of (Guillet and Ballay), B., 14; (Honda and Yamada), B., 655. temper-hardening in (MATSUSMITA and NAGASAWA), B., 445. annealing of (Guibert), (P.), B., 912. with the electric furnace (STASSINET), B., 14. heat treatment of (KENNEY), (P.), B., 337; (AUTOMATIC & ELECTRIC FURNACES and WILD), (P.), B., 369; (CHOPRA and Bullen), (P.), B., 560. deformations accompanying (PORTEVIN and SOURDILLON), B., 703. variations in mechanical properties of, with temperature (MICHEL and MATTE), B., 703. effect of temperature on mechanical and microscopic properties of (Priester and Harder), B., 844. case-carburisation of, by means of cyanide salt baths (North-RUP), B., 844. influence of hydrocarbons on carburisation of (BRAMLEY and LAWTON), B., 844. cementation of (Bellar), (P.), B., 302. by cyanogen (Pérot), B., 334. gaseous cementation of (ROHLAND), B., 142; (BRAMLEY and JINKINGS; BRAMLEY and BEEBY), B., 485; (BRAMLEY and LAWTON), B., 844. forging of, by the upset process (KIELMAN), (P.), B., 77. nitridation of (Guillet), B., 46, 558. effect of constitution on malleability of (ELLIS), B., 485. molten, temperature measurements in (WENZL and MORAWE), B., 631. recrystallisation of (Hanemann), B., 334. solidus and solubility lines in (HONDA and ENDO), A., 720. influence of gases on properties of (GUILLET and ROUX), B., 15. diffusion of carbon and nitrogen into (BRAMLEY and JINKINGS; Bramley), B., 485. corrosion of, under water (Russell, Chappell, and White). B., 192. prevention of, in contact with water or hydrocarbons (MARTINEAU), (P.), B., 256. influence of rust-film thickness on rate of (CHAPPELL). B., 413. surfaces of, in contact (Tomlinson), B., 604. relative corrodibilities of commercial forms of (FRIEND), B., 843. containing copper, resistance of, to corrosion (Grison and Lepage), B., 604. corrosion-resisting coatings on (HUMPHRIES and METALS Protection Corp.), (P.), B., 194, 223; (Lanobein-Pranhauser-Werke), (P.), B., 223. paints for protection of (FRIEND), B., 608. conditions determining scale production on, and its prevention (Marson and Cobb; Angus and Cobb), B., 367. theory of pickling of, for enamelling purposes (STALEY), B., 751. pickling of, in sulphuric acid (SCHMIDT, LEE, and NEWFORT Co.), (P.), B., 113. pickling and scaling of (WÜRKER), (P.), B., 15. chromium-plating of (v. WARTENBERG), B., 846. colouring of, brown (LANGBEIN-PFANHAUSER-WERKE), (P.), B., 194; (PREYNAT), (P.), B., 846. oxygen in (OBERHOFFER, SCHIFFLER, and HESSENBRUCH). B., 966. influence of oxygen on properties of (EILENDER and OERTEL), sulphur in (CIOCHINA), B., 167. inclusions in (STEUDEL), B., 582. blowhole segregations in (WIMMER), B., 631. analysis of (Singleton), B., 191; (Marqueyrol and Toquet), B., 751. determination of carbon in (MALMBERG and HOLMSTRÖM), (P.), B., 416*. determination of small amounts of copper in (ARMOUR), B., 487.

Iron :-Steel, determination of manganese in (QUARTAROLI), B., 910. determination of molybdenum in (Färber), B., 526. determination of oxide inclusions in (OBERHOFFER and Ammann), B., 967. determination of silicon in (VERFÜRTH), B., 255; (STADELER), B., 526. determination of sulphur in (CIOCHINA), B., 335; (HERWIG), Steel, alloy (KINNEAR), (P.), B., 46; (HAMILTON and EVANS), (P.), B., 79; (KINNEAR and MARION STEAM SHOVEL CO.), (P.), B., 81*; (SAKLATWALLA), (P.), B., 195*, 337; (JOHNSON and CRUCIBLE STEEL CO. OF AMERICA), (P.), B., 223; (EVERITT and ALLEN & Co.; KEEN), (P.), B., 337; (WEITZENKORN and MOLYBDENUM CORP. OF AMERICA), (P.), B., 390; (POLDIHÜTTE), (P.), B., 448; (LUCAS and WESTERN ELECTRIC CO.), (P.), B., 490; (OERTEL and GLOCKENSTAHLWERKE VORM. LINDENBERO), (P.), B., 632; (Evans), (P.), B., 783; (Cammell, Laird & Co., Allan, and Hague), (P.), B., 819; (Brown), (P.), B., 847. improving the magnetic properties of sheets of (Ruder and Gen. Electric Co.), (P.), B., 942. heat-treatment of (KUEHNRICH), (P.), B., 415. for hot working (Weitzenkorn and Molybdenum Corp.), (P.), B., 15. deterioration of, in ammonia synthesis (Vanick), B., 782. impact-tool (Armstrong), (P.), B., 880. for rails (Smith and Wills), (P.), B., 847. rustless (BRES), (P.), B., 658; (WHITELEY and SPINKA; JACOBS and DU PONT DE NEMOURS & Co.), (P.), B., 912. determination of titanium in (ROESCH and WERZ), B., 335. austenitic, X-ray studies on decomposition of (HARDER and Dowdell), B., 724. decomposition of, in liquid oxygen (HARDER and DOWDELL), B., 679. ball-bearing, tests on (Robinson), B., 604. carbon, crystal structure of (Seljakov, Kurdjumov, and GOODTZOV), A., 400, 1128. electrical and thermal conductivities of (MASUMOTO), A., 820. mechanical properties of (Tapsell and Clenshaw), B., 525. surface decarburisation of (Schulz and Hülsbruch), B., 879. chromium, transformation of retained austenite into martensite in (Honda and Iwasé), B., 558. for ball-bearings (V. and G. PREVER), B., 487. non-rusting, influence of molybdenum and silicon on properties of (OERTEL and WÜRTH), B., 681. scrap, re-melting of (FARNSWORTH and CENTRAL ALLOY STEEL CORP.), (P.), B., 819. chromium-cobalt (Ostroga), B., 77, 334. chromium and nickel, influence of molybdenum on (JONES), chromium-molybdenum-nickel, properties of (Andrew, Fisher, and Robertson), B., 486. chromium-nickel, non-rusting, manufacture of moulded castings of (Krupp A.-G.), (P.), B., 753. cobalt, determination of cobalt and other elements in (Schiffer), B., 845. determination of manganese in (Hallbauer and Krüger), B., 447. cold-rolled strip (SWINDON and BOLSOVER), B., 446. containing copper, working of (Herwig), B., 335.

resistance of, to atmospheric corrosion (DAEVES), B., 111.

exhaust-valve, influence of heating on resilience of (SAFFY),

austenite and martensite in (TAMMANN and SCHEIL),

heat-resisting (SHIMER and BETHLEHEM STEEL Co.), (P.), B., 415, 754*; (HATFIELD), B., 445.

effect of phosphorus on resistance of (McIntosh and

austenitic, treatment of machine parts made of (Böhler

high-speed, magnetic analysis of (SPOONER), B., 631.

edge tool (v. Vegesack), (P.), B., 848*.

B., 15.

hard, fatigue strength of (LESSELLS), B., 445.

low-carbon, density of (Berlin), B., 487.

manganese (HADFIELD), (P.), B., 819.

COCKRELL), B., 191.

treatment of (KRUPP A.-G.), (P.), B., 912.

GEBR. & Co. and Fuchs), (P.), B., 912.

of (MERTEN), B., 581. manganese and nickel, Acl range in (ANDREW and DICKIE), B., 486. Martin, determination of carbon in, microscopically (HAMAsumi), B., 277. mild, faults occurring in working of (Körber), B., 605. effect of cold-rolling and annealing on hardness of (EDWARDS and KUWADA), (P.), B., 816. penetration of, by brazing solder (Genders), B., 254. behaviour of, under prolonged stress at 300° (Rosenhain and Hanson), B., 968. molybdenum, manufacture of (Becket and Electro Metal-LURGICAL Co.), (P.), B., 169, 256. nickel, elastic hysteresis of (Jannin), B., 167. electrical resistance of (RIBBECK), B., 111. niekel-chromium, temper-brittleness of (Dickie), B., 968. formation of ferrite in (SCHLEICHER), B., 526. normal and abnormal (Epstein and Rawdon; Gat), B., 967. rustless (Weber, Sommer, and Rapatz), (P.), B., 256; CAUGHEY and EDGEWATER STEEL Co.), (P.), B., 302; (Yorke), B., 679; (Strauss), B., 781. production of (BERLIN and AKTIEB. FERROLEGERINGAR), (P.), B., 528*. potential measurements of (STÄGER and ZSCHOKKE), B., 939. reflecting power of (CLAVIER), B., 703. for aeroplanes (Downes), B., 487. sheet, enamels for (LAI), B., 778; (HARRISON and WOLFRAM), B., 779. silicon (Meiser), B., 334. as constructional material (v. Kerpely), B., 680. soft, cementation of, by cyanogen and cyanamide (Péror), B., 45. special, production of, with high-frequency induction furnaces (Körber, Wever, and Neuhauss), B., 14. nitridation of (GUILLET), B., 910. potentiometric determination of hardening elements in (ZINTL and ZAIMIS), B., 939. stainless, colouring of (HATFIELD and GREEN), (P.), B., 783. strained, phenomena in (Fell), B., 845. low-alloy structural, comparison of chromium, nickel, molybdenum, and vanadium in (FRENCH), B., 724. high-silicon structural (GILLETT), B., 631. properties of (SCHULZ and BUCHHOLTZ), B., 679. titanium alloy (CLEMENT and LUDLUM STEEL Co.), (P.), B., 337. tool, manufacture of (v. VEGESACK), (P.), B., 448. hardening of, effect of silicon, nickel, chromium, and tungsten on (HAUFE), B., 751. non-brittle (Röchling'sche Eisen- & Stahlwerke and KUBASTA), (P.), B., 337. tungsten, determination of tungsten in (Moser and Schmidt), B., 656. Steel articles, welding of (Metals Protection Corp. and: Humphries), (P.), B., 116.
case-hardening of (Rheinische Metallwaaren- & MASCHINENFABR.), (P.), B., 369. coating of, to prevent corrosion (METALS PROTECTION CORP. and Humphries), (P.), B., 560; (Metals Protection CORP.), (P.), B., 682. industry, American, economic and social development of (Robinson), B., 753. ingots, treatment of (ELLIS and UNITED STEEL COMPANIES). (P.), B., 416. casting of (Parsons and Duncan), (P.), B., 912. products, manufacture of (Hadfield), (P.), B., 658. sheets, influence of annealing temperature on properties of (Edwards and Jones), B., 446. wire, annealing and hardening of (Köster), (P.), B., 369. drawing of (ATKINS), B., 445. effect of cold-drawing on mechanical properties of (PÜNGEL),. B., 222. Iron compounds, positive ions from mixtures of, with alkalicompounds (Kunsman), A., 603. active (BICKEL and VAN EWEYK), A., 923.

effect of, on avitaminosis (Suski), A., 1223.

complex, atomic moments in (Weiss), A., 288.

(Boresch), B., 10.

insoluble, oxidation and reduction of nitrates and nitrites by

Steel, manganese, carburised and cast, relative wear-resistance

Iron compounds, assimilation of, by plants (SIDORIN), A., 79. transformations of, in nature (HALVORSON and STARKEY), A., 425.

value of, in nutrition (HART, ELVEHJEM, WADDELL, and HERRIN), A., 478.

content of, in animal tissues (ELVEHJEM and PETERSON), A., 1104.

pharmacology of (Starkenstein), A., 172.

Iron salts, photochemical absorption of (PLOTNIKOV and KARschulin), A., 1006.

activation of hydrogen peroxide by (WIELAND and FRANKE), A., 944.

complex, catalytic oxidation by (BAUDISOH and DAVIDSON), A., 321.

effect of, on nutritional anæmia (MITCHELL and VAUGHN), A., 1216.

Iron antimonides, crystal structures of (Oftedal), A., 924. carbide, stability of, at high pressures (Scheil), A., 112. action of acids on (Schenck and Stenkhoff), A., 532; (MILLNER), A., 844.

hydroxide, peptisation of (SEN), A., 1025.

basic, coagulation of sols of (FREUNDLICH and KROCH), A., 18.

nitrososulphides, constitution and absorption spectra of (CAMBI and Szegő), A., 185.

oxide, manufacture of (STEWART and WESTMORELAND CHEMICAL & Color Co.), (P.), B., 884.

effect of zine oxide on colouring properties of (PILLAI), B., 410.

active, influence of administration of, on metabolism (Remesov), A., 899.

oxides, structure of protective coatings of (Bozorth), A., 502. precipitation of (IPATIEV and KISSELEV), A., 739.

phosphide, simultaneous manufacture of cement and (KYBER), (P.), B., 877.

silicates, synthesis of (Duboin), A., 951.

sulphide, varying magnetisation of, according to mode of preparation (Veil), B., 105.

precipitated, composition of (Feigl, Bäcker, and Rosen-BERG), A., 1042.

sulphides, crystal structure of (Fontana), A., 611.

Ferric salts, magnetic rotation of solutions of (RICHARDS and ROBERTS), A., 398.

photochemical reduction of (AUDUBERT), A., 429.

Ferric arsenate, equilibrium of formation of (HARTSHORNE), A., 940.

chloride, products of hydrolysis of (Petin and Golombick), A., 742.

effect of heat on oxidising properties of (GRAMENITZKI), A., 844.

dichromate (Husain and Partington), A., 123.

hydroxide, peptisation of, in presence of arsenious acid, sucrose, and glycerol (MEHROTRA and SEN), A., 624.

action of hydrocyanic acid on (WEDEKIND and FISCHER),

gels, artificial and soil, differences in heat of reaction of, with hydroxides (Bouyoucos), A., 414.

adsorption of vapours by (Perry), A., 721.

desiccation and rehydration of (HAHN and BILTZ),

sols, properties of (MALFITANO and SIGAUD), A., 412. adsorption of ions by (GHOSH and DHAR), A., 408. flocculation of, by electrolytes (BOUTARIO and DUPIN),

A., 309. precipitated, adsorption of acids, alkalis, and salts by (SEN), A., 509.

adsorption of arsenious acid by (SEN), A., 408.

nitrate, equilibrium of water, aluminium nitrate, and (MALquori), A., 940.

equilibrium of potassium nitrate, water, and (MALQUORI), A., 1142.

oxide, manufacture of (NEILL), (P.), B., 108*; (ZALOCOSTAS), (P.), B., 522.

ferromagnetism of (Forestier and Chaudron), A., 11; (CHEVALLIER), A., 433.

sols, lability of (Sorum), A., 1024.

effect of, on aqueous gelatin solutions (WINTGEN and Vöhl), A., 726.

sulphate, manufacture of (HART, HARRIS, HART & Co., and REFINERS LTD.), (P.), B., 653; (HART), (P.), B., 842*.

Iron :-

Ferric sulphate and sulphuric acid, formation of, by oxidation (RALSTON), B., 906.

aluminium sulphate, manufacture of, by Argentine Sanitary Works and Water Supply (Negri and Bado), B., 841.

Triferric tetrasulphide, structure of (DE Jong and WILLEMS), A., 502.

Ferrous salts, photochemical oxidation of (AUDUBERT), A., 429. oxidation of (Grant, Wetherbee, and Hanna), (P.), B., 74. effect of light on the action of iodine with (KISTIAKOVSKI), A., 528.

determination of (DITTLER), A., 223.

Ferrous fluosilicate, crystal structure of (Hassel and Salvesen), A., 1014.

hydroxide, atomic and crystalline structure of (NATTA and Casazza), A., 923.

effect of alkali on oxidation of, by air (MIYAMOTO), A., 425. reaction between nitric oxide, othyl mercaptan, and (Rein-LEN and v. FRIEDOLSHEIM), A., 951.

iodide, syrup of, determination of iodide and ferrous iron in (Kolthoff), A., 125.

sulphate, specific heats of systems of water, sulphuric acid, and (AGDE and HOLTMANN), A., 113.

oxidation of, in solution (ELLIOTT), (P.), B., 748. sulphide, action of high temperatures on (Picon), A., 220.

Perferric acid, salts, preparation and properties of (Goraleviтсн), A., 433.

Perferric anhydride (Goralevitch), A., 433.

Iron organic compounds, complex, with indigotin and (Kunz and KRESS), A., 367.
with oximes (Taylor and Ewbank), A., 58.
Iron carbonyl, manufacture of (I. G. Farbenind.), (P.), B.,

388, 481; (MITTASCH and MÜLLER-CUNRADI), (P.), B., 403.

manufacture of compositions of (BADISORE ANILIN- & Soda-Fabrik), (P.), B., 36. purification of gases from (I. G. FARBENIND.), (P.), B., 517*.

nonacarbonyl, formation of, from the pentacarbonyl (SPEYER and Wolf), A., 742.

Iron detection, determination, and separation :analysis of (MARQUEYROL and TOQUET), B., 751.

detection of, in combustible volatile substances (KAHANE), A., 848.

detection of, with thioglycollic acid (Lyons), A., 953.

detection and determination of, in water (KRÖHNKE), B., 542. ferrous, detection of (Kröhnke), A., 332.

determination of (ZETZSCHE and NACHMANN), A., 127.

determination of, colorimetrically (SAGAIDATCHNI and RAVITCH), A., 437.

determination of, iodometrically (K. and W. Böttger), A., 332. determination of, micro-colorimetrically (LORBER), A., 388.

determination of, potentiometrically (DROSSBACH), A., 1047. determination of, with titanous chloride (BRALLIER), B., 652; (Емметт), А., 1047.

determination of, in presence of calcium (Kranjčević and RUKONIĆ), A., 746.

determination of, in blood-serum (WARBURG), A., 985.

determination of, electrometrically, in blood (KING and Howard), A., 1214.

determination of, microchemically, in blood (SMIRK), A., 271. determination of, in muscle (HENRIQUÈS and ROCHE), A., 787. determination of, in tissues (KENNEDY), A., 987.

determination of carbon in (MALMBERG and HOLMSTRÖM), (P.), B., 416*.

determination of molybdenum in (FÄRBER), B., 526. determination of silicon in (Verfürth), B., 255.

determination of sulphur in (CIOCHINA), B., 335.

ferric, determination of, electrometrically (King and Wash-BURNE), A., 24.

ferrous, determination of, potentiometrically (Kolthoff and Vleeschhouwer), A., 127.

determination of, in silicates (SAWER), B., 557. separation of, from alloys (Wenger and Rogovine), A., 333.

Iron articles, welding of (METALS PROTECTION CORP. and HUMPHRIES), (P.), B., 116. coating of, with heat-conducting material (STRASSER), (P.), B., 194.

to prevent corrosion (METALS PROTECTION CORP. and HUMPHRIES), (P.), B., 560; (METALS PROTECTION CORP.), (P.), B., 682.

Iron castings, malleable, manufacture of (Schwartz and Nat. MALLEABLE & STEEL CASTINGS Co.), (P.), B., 753, 783. with low carbon content (EMMEL and THYSSEN & Co.), (P.),

B., 79. Iron cupola furnaces, fluorspar flux for (WILKE-DÖRFURT and

KLINGENSTEIN), B., 222.

Iron foundries, determination of composition of flue gases and blast requirements of cupolas in (OSANN), B., 389.

Iron industry, American economic and social development of (ROBINSON), B., 753. Iron mirrors. See under Mirrors.

Iron moulds for casting metals (SMITH and FORD MOTOR Co.), (P.), B., 390.

Iron ores, beneficiation of (CROMWELL & MURRAY Co. and McCormack), (P.), B., 726*.

blast-furnace smelting of (DAVIS and ALLEN), (P.), B., 783. interaction of gases and, in the blast furnace (Bone, Reeve, and Saunders), B., 484.

reduction of (Kamura), B., 412; (I. G. Farbenind.), (P.), B., 527, 942; (A./S. Norsk Staal Elektrisk-Gas-Reduktion), (P.), B., 527; (Coast Range Steel and Avis), (P.), B., 846.

by circulation of gases (EDWIN and A./S. NORSK STAAL ELEKTRISK-GAS-REDUKTION), (P.), B., 848.

by hydrogen (Gallo), B., 278

shaft furnace for (MURAKAMI), (P.), B., 490.

low-grade, utilisation of (HINDSHAW and HINDSHAW ENGINEER-

ING & DEVELOPMENT CO.), (P.), B., 783. manganiferous, utilisation of (Joseph, Royster, and Kinney), B., 413.

pulverised, recovery of iron from (Fleischer), (P.), B., 846.

sulphide, recovery of iron from (TRAILL and McCLELLAND), B., $2\bar{8}2.$

titaniferous, treatment of (KLEIN and Brown), (P.), B., 942. containing vanadium and titanium, recovery of vanadium compounds from (KJELLBERG), (P.), B., 43.

determination of sulphur in (HAWES), B., 939. Iron pipes, galvanised, painting of, to prevent corrosion (GARDNER),

B., 683. Iron pyrites. See Pyrites.

Iron rolls, chilled (Walters and United Engineering & Foundry Co.), (P.), B., 605.

Iron scale, purification of (LUCAS), (P.), B., 753.

Iron slag. See under Slag.

Iron sponge, manufacturing of (WIBERG), B., 525.

Iron wire, protection of, for standardisation (Hollingsworth), A., 637

coating of (WYND and SCHUELER), (P.), B., 606. with zinc (MIDLAND MANUF. Co.), (P.), B., 490.

hard-drawn, effect of annealing on specific resistance of (ROHN), B., 487.

a-Iron, solution of cementite in (WHITELEY), B., 816.

Irradiation, biochemistry of (KROETZ), A., 589. Isatic acid. See Isatoic acid.

Isatin, and its derivatives, as catalysts, in dehydrogenation of amino-acids (Langenbeck), A., 546.

and 4-amino- and 4-nitro-, derivatives of (RUPE and APOTHEKER),

condensation products of (KOTAKE), A., 1199.

salts, action of benzoyl chloride on (HANTZSCH and KRÖBER), A., 673.

Isatin, N-hydroxy- (ARNDT, EISTERT, and PARTALE), A., 774. Isatin-N-carboxylic acid, ethyl ester, transformations of (Puto-CHIN), A., 885, 1085.

5:6-Isato-3-amino-1:2:4-triazine, and its acetyl derivative (DE),

Isatoic acid, action of phenylthiocarbimide and phenylcarbimide on (REISSERT and SCHAAF), A., 62.

5:6-Isato-1:3:4-oxadiazine, 2-thiol-, and its derivatives (P. C. and S. C. Guha), A., 982.

Isoelectric point of amphoteric electrolytes, equation for (ATKIN),

Isomerism, electronic nature of (Berezovskaja), A., 398. in relation to freezing point (TIMMERMANS), A., 417. cis-trans-, of metallic salts (Hantzsch), A., 93. in homologous series (NEKRASSOV), A., 922.

and steric hindrance (VAVON and CALLIER), A., 455; (CALLIER),

complex (HERTEL and MISCHNAT), A., 235.

Isomerism, dynamic (RICHARDS, FAULKNER, and LOWRY), A., 858; (Lowry and Smith; Lowry), A., 1150.

geometrical, and viscosity (CAUQUIL), A., 616.

geometrical and position, of organic compounds (ERRERA), A., 94.

optical (MASCARELLI), A., 1180.

Isomorphism of metallic organic compounds, Röntgen-ray structure and (George), A., 98.

Isotopes and atomic structure (PICCARDI), A., 493.

separation of, by means of mobilities in solution (JETTE), A., 182.

radioactive. See Radioactive isotopes.

Itaconic acid, dyes from (DHAR and DUTT), A., 969.

Ivory-nut seeds, carbohydrates of (HESS and LÜDTKE), A., 960. Ivy. See Hedera helix.

J.

Jalap, analysis of (DALE), B., 955.

Jam, manufacture of (McKinlay), (P.), B., 668. detection of apples in (MUTTELET), B., 122, 502.

Jaundice, variation of calcium in, and effect of parathyroid extracts (Cantarow, Dodek, and Gordon), A., 988.

deficiency of calcium in blood in (BUCHBINDER and KERN), A., 587.

Jellies, manufacture of (McKinlay), (P.), B., 668; (Douglas PECTIN CORP. and LOESCH), (P.), B., 890.

manufacture of dry-powdered base for, containing pectin and sugar (Leo), (P.), B., 923. Jellyfish. See Velella spirans.

Jelutong, new product from (YATES), (P.), B., 534. latex (EATON, GEORGI, and TEIK), B., 532.

Jet (CRAIG), B., 721.

Jigs for washing granular materials (GRÖPPEL, WASCHKAU, and SCHOLVIEN), (P.), B., 800.

Joints, soldered, control of, by magnetic spectra (Roux), B., 911. Jute fibres, preparation of, resistant to washing (GUARNIERI), (P.), B., 361.

treatment of (Peace and Carnegie), (P.), B., 472.

Kaki. See Diospyros.

Kaolin, occurrence of, in Lower Austrian forests (Kölbl), A., 643.

effects of electrolytes on (Skeen), B., 587.

action of heat on surface properties of (Dubrisay), B., 12. removal of iron from (FLEISSNER), (P.), B., 483.

sedimentation of suspensions of, containing silicic acid (Ker-MACK and WILLIAMSON), A., 1024.

Pacific Northwest, laboratory apparatus for refining of (CLARK), B., 750.

analysis of, and its relation to clays (Calsow; Linck and Calsow), A., 38.

Kapok (BISHOP and TEIK), B., 744.

Kasolite, crystallography of (Schoep), A., 611.

Kauri wood, waste, as source of paper pulp and resin (IMPERIAL INSTITUTE), B., 247.

Kawa root, constituents of (Borsche), A., 563; (Borsche, ROSENTHAL, and MEYER), A., 664; (BORSCHE and WALTER; BORSCHE, MEYER, and PEITZSCH), A., 1192.

Kephalin, preparation of (LEVENE and ROLF), A., 1104. Kephalins, synthesis of (GRÜN and LIMPÄCHER), A., 227.

Kerasin in ox-spleen (WALZ), A., 691.

Kerosene, burning tests of (THOMAS), B., 643. Keten, manufacture of (DREYFUS), (P.), B., 125, 764.

dialkylacetals (Scheibler, Marhenkel, and Nikolić), A., 1168.

Ketens, manufacture of (NIGHTINGALE and KETOID Co.), (P.), B., 28.

Keto-acid, C₁₀H₁₂O₅, and its derivatives, from oxidation of 4:4:5-trimethyl-∆5-cyclopentene-1:3-dicarboxylic acid (Внас-VAT and Simonsen), A., 250.

 $C_{10}H_{16}O_{3}$, and its derivatives, from d- Δ^3 -carene (Semmler and v. Schiller), B., 714.

C₁₀H₁₆O₃, from action of sulphuric acid on camphorquinone, constitution of (Bhagvar and Simonsen), A., 250.

Keto-acids, condensation of, under influence of catalysts (IPATIEV and RAZUBAIEV), A., 1053.

Keto-aldehyde, $C_{10}H_{16}O_3$, and its semicarbazone from d- Δ^3 -carene (Semmler and v. Schiller), B., 713.

δ-Ketoaldehydes, ring-chain tautomerism in (ΜΕΕRWEIN, ΒRÄKE, ΚΟΜΑΝΤ, and ΜΟΝSCHEL), Α., 875.

γ-Ketoalkylamines, synthesis of (Mannich and Curtaz), A., 231. 3-Keto-4-allylpyrrolidiniumspiro-1:1'-piperidinium bromide (Mannich and Gollasch), A., 572.

2-Keto-4-anilo-3-phenyl-1:2:3:4-tetrahydroquinoline, and its hydrochloride (BAUMGARTEN and KÄRGEL), A., 574.

2-Keto-3-p-anisyl-5-methylcoumaranyl3-peroxide (Löwenbein and Schmidt), A., 1072.

8-Keto-6:7-benzo-2-methylthiol-1:3:4-octathiodiazine, 5-hydroxy-(P. C. and S. C. Guha), А., 982.

p-Ketobornyl chloride, and its somicarbazone (Bredt and Pinten), A., 156.

β-Ketobutan-γ-ol phenylhydrazone (v. Auwers and Heimke), A., 1203.

a-Ketobutyric acid, fermentation of (HÄGGLUND and RINGBOM), A., 902.

Ketocarboxylic acids, aliphatic, manufacture of (Boehringer Sohn and Häussler), (P.), B., 733.

dl-λ-Ketochaulmoogric acid, and its derivatives (Perkins and Cruz), A., 541.

Ketocholanic acid, hydroxy., ethyl ester, and its oxime (Schenck and Kirchhof), A., 562.

Ketocholenic acid, ethyl ester (Schenck and Kirchhof), A., 562.

cis- and trans-Ketodecahydronaphthalene cyanohydrins (Hückel and Wiebke), A., 150.

δ-Ketodecoic acid, ethyl ester, and its semicarbazone (Ruzicka), A., 1171.

7-Keto-2:3:5:6-dibenzo-7:8-dihydro-1:8-naphthyridine, and its salts (Haworth and Pink), A., 1089.

7-Keto-2:3:5:6-dibenzo-1:4:7:8:9:10-hexahydro-1:8-naphthyridine, and its derivatives (Намоктн and Рімк), А., 1089.

4-Keto-3:4-dihydrobenzenediazonium chloride, 2:3:3-trichloro-(Fries, Vorbrodt, and Siebert), A., 780. 6-Keto-6:7-dihydrobenzthiodiazole, 7:7-dichloro-(Fries, Vorbrodt)

6-Keto-6:7-dihydrobenzthiodiazole, 7:7-dichloro- (FRIES, VOR BRODT, and SIEBERT), A., 780.

6-Keto-6:7-dihydroindazole, 4:5:7-trichloro-7-hydroxy-, hydrate (Fries and Tampke), A., 783.

2-Ketodihydroindole, 5:7-dibromo-3-hydroxy-, dimethyl derivative (Kendall and Osterberg), A., 973.

1-Keto-3:4-dimethyltetrahydronaphthalene, and its semicarbazone (v. Braun and Stuckenschmidt), A., 258.

4-Keto-1:6-dimethyltetrahydronaphthalene, and its derivatives (Rupe and Schutz), A., 58.

Zürrhen, and Phillips), A., 574.

(MAYER, VAN Zürrhen, and Phillips), A., 574.

ZÜTPHEN, and PHILIPPS), A., 574. γ -Keto- $\alpha\gamma$ -diphenyl-n-butyric acid, β -hydroxy-, and its derivatives (Kohler and Goodwin), A., 263.

a-Keto-βγ-diphenylbutyrocyclohexylamide, γ-hydroxy- (Skita and Wulff), A.,765.

 $\gamma\text{-Keto-}\alpha\gamma\text{-diphenylerotonic}$ acid (Kohler and Goodwin), A., 263.

2 - Keto - 3:4 - diphenyl - 6 - p - methoxyphenyltetrahydropyridine (Allen), A., 562.

6-Keto-3:5-diphenyl-1:2-oxazine (Kohler and Goodwin), A., 263. 5-Keto-1:2-diphenylpyrrolidine-4-anil, nitro-derivative (Bodforss), A., 775.

5-Keto-1:2-diphenylpyrrolidine-4-p-nitroanil (Bodforss), A., 776. 5-Keto-1:3-diphenyl-4:5:6:7-tetrahydroindazole, 4:4:6:7:7-pentachloro- (Fries and Tampke), A., 783.

1-Keto-3-ethyltetrahydronaphthalene, and its derivatives (v. Braun and Stuckenschmidt), A., 258.

2-Keto-1-ethyl-1:2:3:4-tetrahydroquinoline (Mayer, van Zütphen, and Philipps), A., 574.

c-Ketogluconic acid, synthesis of, and its brucine salt (Neuberg and Kitasato), A., 544.

β-Ketogluconic acid, and its salts (OHLE and BEREND), A., 647. (α-Ketoisohexoyl)glycine, and its phenylhydrazone (Goldschmidt, Wiberg, Nagel, and Martin), A., 983.

2-Ketocyclohexylglyoxylic acid o-nitrobenzoylhydrazone (v. Auwers), A., 577.

7-Ketohomohexahydrobenznaphthene, and its derivatives (V. Braun and Rath), A., 667.

6-Ketohomotetraphthene, and its derivatives (v. Braun and Rath), A., 666.

4-Keto-2-hydroxy-3:3-diethyl-3:4-dihydroquinoline, and its benzoyl derivative (Baumgarten and Kärgel), A., 574.

Ketols, aromatic, reduction of nitro-compounds by (NISBET), A., 1063.

Ketolactamearboxylic acids (Sohenok and Kirohnof), A., 666.

3-Keto-5-methyl-2:3-dihydrothiophen-4-carboxyanilide, 2-oximino-(Benary and Kerckhoff), A., 45.

2-Keto-1 - methyl-5:6-(2':3' - diphenyl-4':5' - pyrrolo)-1:2 - dihydroquinoline (Fawcett and Robinson), A., 1088.

 β -Keto- ζ -methylenedioxyphenyl- $\Delta \nu$ -hexadienoic acid. See allo-Methysticin.

β-Keto-ζ-methylheptan-δ-ol, γ-chloro- (Pastureau and Bader), A., 544.

γ-Keto-ε-methyl-Δαδ-hexadien-α-ol, and its copper salt and derivatives (PAULY and STRASSBERGER), A., 857.
 6-Keto-4-methylpropane-1:3H²:4-3:4:5:6-tetrahydropyridine-5-carboxylic

acid, and its bromo-derivative (FARMER and ROSS). A., 148. 5-Keto-6-methyl-2:3:4:5-tetrahydropyridine, 5-phenylhydrazones, and their hydrochlorides (MANSKE, PERKIN, and ROBINSON),

A., 265. 2-Ketomethyl-1:2:3:4-tetrahydroquinolines (Мачек, van Züтрнен, and Риширгя), A., 574.

2-Keto-1-methyltetrahydroquinoline-4-carboxylic acid, and iodo-, and their esters (AESCHLIMANN), A., 256.

δ-Keto-2-methylthiol-6:7-dihydro-1:3:4-octathiodiazine, 5-hydroxy-(Р. С. and S. С. Guha), A., 982.

6-Kcto-2-methylthiol-1:3:4-thiodiazine, 5-hydroxy-, and its acetyl derivative (Р. С. and S. С. Guha), А., 982.

δ-Keto-2-methylthiol-1:3:4-octathiodiazine, 5-hydroxy- (P. C. and S. C. Guna), A., 982.

λ-Keto-a-methyltridecoic acid, and its methyl ester (Chuit, Boelsing, Hausser, and Malet), A., 446.

Ketone, C₁₀H₁₄O, and its derivatives from pine oil (Semmler and

v. Schiller), B., 714. $C_{12}H_{20}O$, and its semicarbazone, from ozonisation of dihydrocudesmene (Ruzicka and Capato), A., 570.

Ketones, formation of, by dry distillation of salts of organic acids (Dosios and Leucaditis), A., 769.

Behn synthesis of (ROSENMUND and SCHULZ), A., 667.

separation of, as compounds with magnesium bromide (Tsche-Linoev and Nasarov), A., S.7.

enolic forms of (GRIGNARD and SAVARD), A., 567. solvatochromism of (Blumberger), A., 1055.

pyrogenic decomposition of, under high pressures (IPATIEV and PETROV), A., 1076.

action of nitrosyl chloride on (LYNN and LEE), A., 544. interaction of, with alcohols, under influence of light (BÖESEKEN,

COHEN, and LANGEDIJK), A., 769. crossed dismutation between aldehydes and (Gordon), A., 1195.

manufacture of condensation products of, with aldehydes (I. G. FARBENIND.), (P.), B., 860.

compounds of, with zinc chloride (BILLON), A., 880.

aliphatic aromatic, condensation of 2-aminopyridine with (SOHMID and BANGLER), A., 158.

aromatic, reduction of, by a mixture of magnesium and magnesium iodide (Gomberg and Bachmann), A., 245.

reactions of sodium compounds of (Rodd and Linch), A., 1067. eyelic, mobility of (Kon and Nutland), A., 153.

catalytic hydrogenation of (VAVON and COUDERC), A., 567. phenolic (Rosenmund and Schulz), A., 667.

unsaturated, preparation of, from chlorides of hydroxy-acids (Kon and Narayanan), A., 878.

αβ-unsaturated, action of hypochlorous acid on (PASTUREAU and BADER), A., 544.

preparation of α-diketones from (Dufraisse and Moureu), A., 246.

unsymmetrical, reduction of oximes of (BILLON), A., 879. determination and identification of (VEIBEL), A., 1172. determination of carbonyl in (ELLIS), A., 583.

Ketones, α-bromo-αβ-unsaturated, action of piperidine on (DUFRAISSE and MOUREU), A., 884.

oximino-, action of magnesium organic compounds on (ORÉKHOV and TIFFENEAU), A., 872.

thio-, aromatic, action of Grignard reagents on (Schönberg), A., 667.

Ketone ether, hydrated (BOUGAULT), A., 665, 1188. Ketonecyanohydrins, formation and decomposition of (LAPWORTH, MANSKE, and ROBINSON), A., 1080.

Ketonic acid, $C_{10}H_{16}O_3$, and its derivatives, from camphorquinone (Bredt-Savelsberg, Zaunbrecher, and Knieke), A., 1068.

a-Ketonic acids, formation of, from a-amino-β-hydroxy-acids (BERGMANN and DELIS), A., 1202. preparation of (Barré), A., 447.

β-Ketonic acids, esters, reduction of oximes of (Billon), A., 879.

Ketonic bases, unsaturated, intramolecular alkylation in bromination of (Mannich and Gollasch), A., 572.

δ-Ketonitriles, reactions of (Allen), A., 561.

3-Keto-2:5-dinitrophenyl-3:4-dihydro-1:4-diazines (Ingham), A.,

Ketonuria in fasting rats (C. F. and G. T. Cori), A., 593.

2-Keto-octahydrobenzfuran-3-propionic acid, 3-bromo-4-hydroxy-, and 3:4-dihydroxy-, and their lactones (KENDALL and OSTER-BERG), A., 973.

2-Keto-octahydroindole-3-propionic acid, 3-bromo-4-hydroxy-, and 3:4-dihydroxy-, and their derivatives (KENDALL and OSTERвеко), А., 973.

6-Ketopentadecane-ao-dicarboxylic acid, and its methyl ester (Ruzicka, Schinz, and Seidel), A., 1190.

y-Ketopentadecoic acid, and its methyl ester (Chuit, Boelsing, HAUSSER, and MALET), A., 446.

 $\textbf{5-Keto-2-phenyl-1-} \\ p-\textbf{anisylpyrrolidine-4-} \\ p-\textbf{methoxyaml}$ (Bop-FORSS), A., 776.

2-Keto-3-phenylbenzocoumaranyl 3-peroxide (Löwenbein and Schmidt), A., 1073.

2-Keto-3-phenylcoumaranyl (LÖWENBEIN 3-peroxide and Schmidt), A., 1072.

5-Keto-2-phenyl-4:5-dihydrobenziminazole, tetrachloro- (Fries, DIECKMANN, FINGERLING, and FINK), A., 781.

5-Keto-1-phenyl-4:7-dimethyl-4:5-dihydrobenztriazole, 6-chloro-4hydroxy-, and 4-nitro- (Fries and Arnemann), A., 779.

5-Keto - 1 - phenyl - 4:7 - dimethyl - 4:5:8:7 - tetrahydrobenztriazole, 4:6:6:7-tetrachloro- (Fries and Arnemann), A., 779.

7-Keto-8- β -phenylethyl-2:3:5:6-dibenzo-7:8-dihydro - 1:8-naphthyridine (HAWORTH and PINK), A., 1089.

7-Keto-8- β -phenylethyl - 2:3:5:6 - dibenzo - 1:4:7:8:9:10 - hcxahydro-1:8-naphthyridine (HAWORTH and PINK), A., 1089. 3-Keto-5-phenyl-2-methylpyrroline, 2-amino- (Diels, Budden-

BERG, and WANG), A., 253. 3-Keto-5-phenyl-2-methylpyrroline-2-benzyl ether (DIELS, BUD-

DENBERG, and WANG), A., 253.

5-Keto-1-phenyl-3:4:5:6-tetrahydrobenzthiazole, 3:3:4:4:6:6-hexachloro- (Fries and Buchler), A., 782.

5-Keto-6-phenyl-2:3:4:5-tetrahydropyridine 5-phenylhydrazone, and its hydrochloride (Manske, Perkin, and Robinson), A.,

2-Keto-3-phenyl-1:2:3:4-tetrahydroquinazoline, 4-hydroxy-, uniand bi-molecular (Reissert and Schaaf), A., 62.

2-Keto-3-phenyl-1:2:3:4-tetrahydroquinazoline-4-carboxylic 4-hydroxy- (Reissert and Schaaf), A., 62.

7-Keto-8- β -piperonylethyl-2:3:5:6-dibenzo-7:8-dihydro-1:8-naphthyridine (HAWORTH and PINK), A., 1089.

7-Keto-8- β -pipcronylethyl-2:3:5:6-dibenzo-1:4:7:8:9:10 - hexahydro-1:8-naphthyridine (HAWORTH and PINK), A., 1089.

Ketosis in rats (LEVINE and SMITH), A., 1218.

Ketostearic acid, and its salts and methyl ester, from hen bile (WINDAUS and VAN SCHOOR), A., 272.

1-Ketostearolic acid, and its oxime (André and François), A., 958.

2-Keto-4:5:5:6-tetra-alkylhexahydropyrimidines, 4:6-dihydroxy-, endo-ethers of (Dox), A., 1087.

μ-Ketotetradecoic acid, ethyl ester, and its semicarbazone (Ruzicka), A., 1171.

1-Ketotetrahydroanthracene, and its picrate and derivatives (v. Braun and Bayer), A., 258.

5-Keto-4:5:6:7-tetrahydrobenzthiodiazole, 4:4:6:6:7-penta-4:4:6:6:7:7-hexa-chloro- (FRIES, VORBRODT, and SIEBERT),

3-Keto-3:4:5:6-tetrahydro-4-carboline (Manske and Robinson),

a-Ketotetrahydronaphthalene (AMAGAT), A., 970.

1-Ketotetrahydronaphthalene, 7-amino-, 7-chloro-, 7-hydroxy-, and 7-nitro-, and their salts and derivatives (v. Braun and Jungmann), A., 258.

2-Keto-1:2:3:4-tetrahydroquinoline, and its derivatives, and ehloro- (Mayer, van Zutphen, and Philipps), A., 574.

2-Keto-1:2:3:4-tetrahydroquinoline-4-carboxylic acid, 3-hydroxy-, and its salts (Kotake), A., 1199.

α-Keto-ββγγ-tetramethylglutaric acid, and its derivatives (Roth-STEIN and SHOPPEE), A., 447.

5-Keto-2-p-tolyl-4:5:6:7-tetrahydrobenztriazole, 4:4:5:7:7-pentachloro- (Fries, Sudhoff, and Brettschneider), A., 778.

λ-Ketotridecoic acid, and its methyl ester (Chuit, Boelsing, Hausser, and Malet), A., 445.

κ-Ketoundecan-α-ol, and its acetate and semicarbazone (Chuit, Boelsing, Hausser, and Malet), A., 40.

-Ketoundecoic acid, and its methyl ester (CHUIT, BOELSING, Hausser, and Malet), A., 40. constitution of, and its derivatives and isomeride (MYDDLETON

and BARRETT), A., 1053. ethyl ester (Ruzicka), A., 1171.

(a-Ketoisovaleryl)glycine, and its phenylhydrazone (Gold-SCHMIDT, WIBERG, NAGEL, and MARTIN), A., 983.

Ketoximes, action of nitrosyl chloride on (RHEINBOLDT and Dewald), A., 851.

aromatic, electrolytic reduction of (Kaplansky), A., 1076. Kidneys, ammonia and urea production by (Holmes and Warchorn), A., 479.

dextrose metabolism of (IRVING), A., 897.

oxygen consumption of (TAMURA, WATANABE, and KABURAKI), A., 270.

effect of various diets on (ADDIS, and E. M. and L. L. MACKAY), A., 170.

human, action of insulin on permeability of (Elias and GÜDEMANN), A., 282.

Kieselguhr, filter-acid and decolorising agent from (CELITE Co.), (P.), B., 365*.

Kilns (Johnson), (P.), B., 512, 544; (Minter), (P.), B., 575, 799; (Spiers and Morgan Crucible Co.), (P.), B., 624*. refractory lining for (Polysius Go.), (P.), B., 816.

for burning ceramics (Webster), (P.), B., 524. for burning limestone (Mount), (P.), B., 443.

for sulphate production, central feed for (RHENANIA VER. CHEM. FABR. and BÖHM), (P.), B., 481.

brick, and driers (Dressler and American Dressler Tunnel KILNS), (P.), B., 524.

ceramic, insulation of (Josi and Hubbard), B., 410.

dry (Ullin), (P.), B., 767.

Harper electric (FITZGERALD), B., 332.

lime (TRUESDELL and DOHERTY RESEARCH Co.), (P.), B., 444. rotary (Bentley), (P.), B., 175, 239.

cooling attachment for (FASTING), (P.), B., 689.

calcination in (RIGBY), (P.), B., 464.

for burning cement, ores, etc. (VICKERS, LTD. and PARKER), (P.), B., 166.

for pyrites burning (Deвисн), В., 628.

tunnel (Ljundahl and Cooper), (P.), B., 67; (Robertson), (P.), B., 351; (Kelleher and Harper Electric Furnace Corp.), (P.), B., 832, 943; (Meehan and Amer. Dressler TUNNEL KILNS; DRESSLER and AMER. DRESSLER TUNNEL KILNS), (P.), B., 927.

electrically heated (Moore and Campbell), (P.), B., 492. Kinematograph films (THORNTON), (P.), B., 715.

coloured, manufacture of (Berthon), (P.), B., 622; (THORNTON), (P.), B., 765, 798.

natural coloured (Maurich), (P.), B., 621.

Kinematography (Dufay and Soc. Anon. Comp. D'Exploit. Proc. Phot. Couleurs Dufay), (P.), B., 461.

colour (Technicolor Motion Picture Corp.), (P.), B., 238; (Soc. Franc. Films Herault, Rodde, and Bombars), (P.), B., 622

natural-colour, two-part screen for use in ("Chromo" Filmges.), (P.), B., 957.

Kinetics, chemical, general equation of (SKRABAL), A., 942.

Kirondrin (Volmar and Samdahl), A., 387.

a-Kirondrin, constitution of (VOLMAR and SAMDAHL), A., 464. Kolbe's synthesis, mechanism of (FAIRWEATHER and WALKER),

A., 119. "Krimpsiekte," from toxic principle of Cotyledon (KAMERMAN),

Krypton, spectrum of (McLennan and Ruedy), A., 911. intense rays in (PERARD), A., 390.

ultra-violet spectrum of (TAYLOR), A., 178.

potential gradient for, in the positive column (GÜNTHER-Schulze), A., 709. ionised, spectrum of (KICHLU), A., 998.

Kundt's rule of maximum absorption (VAILLANT), A., 508, 723. Kuromoji oil (Shinosaki and Makino), A., 799.

Kynurenic acid, excretion of, in bile (Kotake and Ichihara),.. A., 990.

L.

Laboratory apparatus, rotating, gas-tight bearing for (VAN BRUNT), A., 224.

Laboratory bench, portable units for (LITTLE), A., 641. Laboratory furniture, interchangeable (WHITE), A., 439.

Laccase, action of thorium-X on (MAUBERT), A., 483.

Lachrymatory gases (Bradner and Federal Laboratories), (P.), B., 173.

Lacquers, manufacture of (I. G. FARBENIND.), (P.), B., 947. stress-strain curves of, and their constituents (McKim), B., 84. physical constants and properties of solvents, thinners, and plasticisers for (VAN HOEK), B., 84.

separation of volatile solvents and thinners from (Carter), B., 119.

production of coats of (PAHL), (P.), B., 756.

durability of resins and plasticisers in (GARDNER and VAN Неискекоти), В., 851.

for preserve cans (SERGER), B., 84.

for shoe heels (EDBROOK), (P.), B., 85. dyed, preparation of (I. G. FARBENIND.), (P.), B., 305.

low-viscosity, production of (Flaherty and Du Pont de Nemours & Co.), (P.), B., 563.

nitrocellulose, physical properties of (GARDNER), B., 418. solvent balance in (Brown and Bogin), B., 822.

application of coatings of (Wolff & Co. and Schulz), (P.), B., 916.

testing of (v. MÜHLENDAHL and SCHULZ), B., 915.

pyroxylin, butyl stearate in (HERCULES POWDER Co.), (P.), B.,

viscosity and mobility readings of solutions of (VAN HEUCKEкотн), В., 585.

solutions of cellulose esters for use as (Davidson and Carbon & Carbide Chemicals Corp.), (P.), B., 852*.

use of ethylene and propylene glycol ethers in "odourless" brushing (GARDNER and VAN HEUCKEROTH), B., 684. analysis of (OAKES), B., 84.

separation and analysis of pigments in (Horkins), B., 118.

Lacquering, solutions for (EICHENGRÜN), (P.), B., 305.

Lactacidogen (EMBDEN and ZIMMERMANN), A., 749. in blood (A. and J. ROCHE), A., 1214.

in heart-muscle (Perger), A., 168. metabolism. See Metabolism.

Lactaldehyde acetate, bimolecular (FISCHER, TAUBE, and BAER), A., 340.

Lactic acid, formation of, by fermentation (VIRTANEN, WICH-MANN, and LINDSTRÖM), A., 700.

from methylglyoxal by enzyme action (Kuhn and Heck-SCHER), A., 74.

during muscle contraction (EMBDEN, LEHNARTZ, and HENT-

SCHEL), A., 589. influence of ions on, in minced muscle (Selter), A., 479.

enzymic formation of, in muscle extracts (Meyerhof), A., 75, 590; (MAYER), A., 590; (MEYERHOF and LOHMANN), A., 697; (DAVENPORT and COTONIO), A., 790.

production of, in frog's muscle (WOODROW and WIGGLESWORTH), A., 897.

by cardiae muscle (ARNING), A., 987.

formation of, from sugar, and its determination (WINDISCH, KOLBACH, and RUCKDESCHEL), A., 1053.

from carbohydrate exchange in the body (Stoklasa), A., 588. by fermentation of wood sugar remaining after alcohol fermentation (MARTEN, SHERRARD, PETERSON, and FRED), B., 889.

from sugar-containing raw materials (Pollak), (P.), B., 375*. by yeast (Neuberg and Kobel), A., 592.

in phanerogams (VAN KAMPEN), A., 995.

and its salts, manufacture of (FAITHFULL), (P.), B., 264*. photochemical decomposition of, in presence of uranyl sulphate

(Müller), A., 119.

conductivity of, and its salts (DIETZEL and ROSENBAUM), A.,

decolorisation and purification of (GOUTHIÈRE), (P.), B., 459. partition of, between water and ether and between water and amyl alcohol (DIETZEL and ROSENBAUM), A., 820.

equilibrium of o-toluidine, water, and (ANGELESCU), A., 1030. configurational relationship of, with a-hydroxybutyric acid LEVENE and HALLER), A., 1053.

in blood after administration of lævulose (Lanyi), A., 588. metabolism of. See under Metabolism.

Lactic acid, detection of, in presence of other organic acids (GERMUTH), B., 616.

determination of (FRIEDEMANN, COTONIO, and SHAFFER; DAVENPORT and COTONIO), A., 800.

determination of, in blood (RONZONI and WALLEN-LAWRENCE), A., 985.

determination of, colorimetrically, in blood (Dische and Laszlo), A., 985.

Lactic acid, calcium salt, double salts of calcium halides with (COLMAN), (P.), B., 317.

magnesium salt, prevention of tetany by (WENNER), A., 988. mercury salt, determination of, mercurimetrically (Jonesco-MATIU and BORDEIANU), B., 891.

sodium salt, disappearance of, and its effect on sugar and phosphate in blood (RIEGEL), A., 897.

Lactic acid, esters, manufacture of (CANADIAN ELECTRO PRODUCTS Co., Matheson, and Blaikie), (P.), B., 796.

d-Lactic acid, configurational relationship of d-butan- β -ol to (LEVENE, WALTI, and HALLER), A., 337.

Lactobionic acid, bismuthyl compound of (Browning, Cohen, Gulbransen, Phillis, and Snodgrass), A., 855.

lactone formation of (LEVENE and SOBOTKA), A., 340. Lactone, C₁₇H₁₂O₄, from β-phthaloyl-β-phenylpropionic acid (Rădulescu and Gheorgiu), A., 244.

Lactones, methylated, from sugars (DREW, GOODYEAR, and Начовтн), А., 750.

Lactones, reactions of, with hydrocarbons and aluminium chloride (King), A., 358.

Lactose (milk-sugar), structure of (Levene and Sobotka), A., 340; (HAWORTH and LONG), A., 450; (LEVENE and WINTER-STEINER), A., 1171.

synthesis of (PICTET and VOGEL), A., 960.

manufacture of (Bell), (P.), B., 234; (MEREDITH and NYBORG), (P.), B., 454.

solubility and crystal formation of (Hunziker and Nissen), A.,

effect of, on calcium-phosphorus balance in dogs (Gross), A., 695.

metabolism of. See Metabolism.

determination of, in bread (SNETHLAGE), B., 122.

8-β-Lactosido-β-d-glucose, and its hendecaacetate and osazone (Helferich and Schäfer), A., 136.

Lactuca sativa, constituents of latex of (Zellner), A., 597.

Lactylpropylamide, trichloro (Passerini), A., 149.

Leevulose (d-fructose; fruit-sugar), structure of (HAWORTH, HIRST. and Learner; Ohle), A., 649; (Avery, Haworth, and Hirst), A., 1057.

preparation of (ARSEM and INDUSTRIAL TECHNICS CORP.), (P.), B., 499.

production of (Hoche), B., 233.

adsorption of, by normal and insulin-treated rats (G. T. and C. F. Cori), A., 790.

relative sweetening power of sucrose and (Spengler and Traegel), B., 311; (Willaman), B., 664.

reaction between alanine and (v. EULER and BRUNIUS), A., 135. food product from (ARSEM and INDUSTRIAL TECHNICS CORP.), (P.), B., 500.

tolerance of rats for (C. F. and G. T. Cori), A., 593.

Laganum echinoidea, constituents of (Kotake), A., 1215. Lakes, colour, physical chemistry of formation of (Weiser and

PORTER), A., 1021.

finely-divided, manufacture of (I. G. FARBENIND.), (P.), B., 837.

Lamps, electric. See Electric lamps.

motor-car, treatment of glass for (Hertog), (P.), B., 221. neon, action of, on bacteria (PHILIBERT and RISLER), A., 281.

Lampblack, manufacture of (CANADA CARBIDE Co. and WISDOM), (P.), B., 210; (BIRD and TRIESCHMANN), (P.), B., 290; (PAGENKOFF), (P.), B., 67.

from natural gas (GARNER), (P.), B., 436. from petroleum (Longhi), (P.), B., 436.

thermochemistry of various types of (Hock and Bostroem), B., 130.

in rubber (van Rossem and van der Meyden), B., 635. Landolt reaction, kinetics of (SKRABAL and ZAHORKA), A., 319. Langevin-Debye formula, proof of (VAN VLECK), A., 609. Lanthanum, spectrum of (MEGGERS and BURNS), A., 803.

absorption spectrum of vapour of (McLennan, Conen, and LIGGETT), Ā., 396.

are spectrum of (MEGGERS), A., 178.

Lanthanum, are and spark spectra of (McDonald, Sutton, and McLay; McLennan and Liggett), A., 390. electric furnace spectrum of (KING and CARTER), A., 911.

spark spectrum of (Meggers), A., 602. Lanthanum hydroxide, solubility of (Sadolin), A., 304. ammonium sulphate (ZAMBONINI and STOLFI), A., 112.

Lapachol, synthesis of (FIESER), A., 462.

Lard, effect of benzoic and cinnamic acids on rate of development of rancidity in (HUSA and HUSA), B., 730.

detection of hardened whale oil in (Gronover and Blechsенмиот), B., 730.

Laudanidine, synthesis of (Späth and Burger), A., 473. Laudanine, synthesis of (SPATH and BURGER), A., 473.

 ψ -Laudanine, constitution of (Späth and Epstern), A., 163.

Laudanosoline sulphate (OBERLIN), A., 681. Laue effect, demonstration model for (HAGEN), A., 715.

Laundries, hydro-extractors for (BAKER PERKINS, LTD., and DEWпикэт), (Р.), В., 104.

Laundry soda, specification for (U.S. Bur. Standards), B., 553.

Lauric acid, potassium salt, equilibria of potassium chloride, water, and (McBain and Field), B., 18.

esters, determination of, in oils (Salamon), B., 267.

Laurie acid, a-thiol-, and its disulphide (NICOLET and BATE), A.,

Laurus nobilis, essential oil from (GASOPOULOS), B., 506.

Laurylsalicylic acid (KAUFMANN), B., 155.

Lautal (Fuss), B., 168.

Lavandula vera, essential oil from (GASOPOULOS), B., 506.

Lavender oil, linelyl butyrates and acetate contents of (KAUF-MANN and KJELSBERG), B., 923.

7-methoxycoumarin in (PFAU), B., 571.

French (LANGLAIS and GOBY; RECLAIRE), B., 267. Spanish spike (TEDESKO), B., 267.

detection of acetic acid in (LANGLAIS and GOBY), B., 92.

Laxatives, theory of (KAUFMANN and HAAS), A., 1083.

Leaching, apparatus for (Kennedy), (P.), B., 511.

Leaching solutions, recovery and regeneration of (WETHERBEE, GRANT, and HANNA), (P.), B., 299.

Lead, occurrence of, on fruit after spraying (Lendrich and MAYER), B., 712.

constitution of (Aston), A., 806.

Roman, from Folkestone and Richboro' Castle, silver content of (FRIEND and THORNEYCROFT), B., 281.

extraction of, from ores (SMITH), (P.), B., 256; (KRUPP GRUSONWERK), (P.), B., 415; (FAIVRE), (P.), B., 658.

from its ores and residues, by treatment of its chloride or basic chloride (Smith and Chemical & Metallurgical Corp.), (P.), B., 907.

purification of waste gases from furnaces for (KRUPP GRUSON-WERK), (P.), B., 114.

refining of (DAVIS), (P.), B., 784.

arc spectrum of (Sur), A., 390. L-emission spectrum of (Eddy and Turner), A., 491.

explosion spectrum of (ARAKATSU), A., 286.

spark spectrum of (GIESELER), A., 491. spark spectra of, in various media (MIYANISHI), A., 910.

exposed to solar radiation, radioactivity of (MARACINEANU), A., 605.

absorption of y-rays by (Bastings), A., 87.

crystallography of chlorides of isotopes of (Kerr-Lawson),

atoms, artificial disintegration of (Smits and Karssen), A., 87. variation of molecular weight of, with temperature (JOUNIAUX), A., 99.

entropy of (Rodebush), A., 718.

atomic heat of (KEESOM and ANDREWS), A., 1131.

effects of polonium, solar radiation and high tension on (MARA-CINEANŪ), A., 807.

and its alloys, polishing and etching of (VILELLA and BEREOEкогг), А., 1049.

and its alloys with bismuth, viscosities of (BIENIAS and SAUER-WALD), A., 508.

surface tension of (DRATH and SAUERWALD), A., 723. velocity of solution of, from amalgams (GROH), A., 1033.

passivity of (DONY-HENAULT), A., 427. corrosion of, by mineral waters (KAJA), B., 911.

electroplating with (SHOEMAKER and LEADIZING Co.), (P.), B.,

transmutation of (Thomassen), A., 606.

Lead, catalytic, activity of (MADENWALD, HENKE, and Brown),

colloidal, preparation of solutions of (BISCHOFF and BLATHER-WICK; TERKES), A., 724.

poisoning. See under Poisoning.

elimination of, in bile and pancreatic juice (BRICKER), A., 173. Lead alloys (Beckinsale and Waterhouse), (P.), B., 606;

(Yoshikawa), (P.), B., 847. antifriction, effect of pouring temperature and mould temperature on (ELLIS), B., 112.

with oxidisable metals (CHEM. FABR. KALK, HERRMUTH, and ОЕНМЕ), (Р.), В., 490.

with antimony (SCHUMACHER and BOUTON), A., 820.

with antimony and arsenic (ABEL and REDLICH), A., 517. with antimony, cadmium, and zinc, electrolysis of (KREMANN and Tröster), A., 25.

with antimony and copper (GEATTY), (P.), B., 847.

with bismuth (Sernissy), (P.), B., 195; (Yoshikawa), (P.), В., 338.

with cadmium (Friedrich and Gen. Electric Co.), (P.), B., 881*

with lithium (Czochralski and Rassow), A., 418.

with sodium (KRAUS, CALLIS, and STANDARD DEVELOPMENT Co.), (P.), B., 606.

with thallium, Röntgen-ray study of (McMillan and Pauling), A., 405.

with tin, hardening of (Travers and Houot), B., 846. effect of work and annealing on eutectic in (HARGREAVES), B.,

cutectic, crystallisation of (HARGREAVES), B., 281.

derived from waste material from lead-smelting works, treatment of (Speichert and Vogel), (P.), B., 881.

Lead compounds, manufacture of (Commonwealth White Lead & Paints Proprietary), (P.), B., 259; (Wilhelm and Commonwealth White Lead & Paints Proprietary), (P.), B., 372*.

electrolyte containing (MILLER), (P.), B., 81.

in marine crustaceans and shell fish (CHAPMAN and LINDEN),

Lead salts, soluble, action of oxalic acid on (Demassieux), A., 959. suspensions of, interaction of, with blood-serum, Ringer's solution and aqueous phosphate solutions (Brooks), A., 893.

Lead arsenate, removal of, from fruit (SEARS), (P.), B., 732. azide, crystalline, production of (A.-G. Lionose), (P.), B., 798. bromate, precautions in preparation of (VICTOR), A., 1045. bromides, compounds of bromine and (Biltz and Jeep), A., 627.

carbonate, manufacture of (SMITH), (P.), B., 555.

from crude lead sulphate (DALOZE), (P.), B., 748. conversion of lead chloride into (SMITH), (P.), B., 842*. basic carbonate (white lead), manufacture of (LLOYD, CAMPBELL, and Commonwealth White Lead & Paints Proprietary).

(P.), B., 609*; (CARRERAS), (P.), B., 916. carbonate and oxide, production of, from lead sulphate (DALOZE),

(P.), B., 481

chloride, equilibrium of potassium chloride, water, and (ALL-MAND and BURRAGE), A., 1030.

equilibria of, with water and lithium and sodium chlorides (DEACON), A., 1030.

purification of liquors containing (Consortium für Nass-METALLURGIE), (P.), B., 107.

molten, change in activity of, on dilution with potassium chloride (HILDEBRAND and RUHLE), A., 418.

conversion of, into lead carbonate (SMITH), (P.), B., 842*. chloride and iodide, equilibrium of water and (Sowerby), A., 731.

chromates for pigments (NATHANSOHN), (P.), B., 787. halides, disperse systems of (v. Weimarn, Chên, Kida, and Yasuda), A., 933.

iodide, double salts of alkali iodides and (BURRAGE), A., 326. nitrate, manufacture of (BENTLEY, CATLOW, and BLYTHE & Co.), (P.), B., 409.

suboxide (Ferrari), A., 9.

production of (GUTERSOHN), (P.), B., 965.

monoxide (litharge), manufacture of (TARDAN), (P.), B., 389, 778; (Waring and Assoc. Lead Manuers.), (P.), B., 389. yellow, lattice structure of (HALLA and PAWLEK), A., 924. action of, on aluminosilicates (GARRE), A., 842.

Triplumbic tetroxide (red lead), action of acetic acid on (Brück-NER), B., 139.

Lead peroxide, effect of, on determination of carbon (LINDNER), A., 66.

Lead oxides, action of, on dyes (Adamson and Wood), B., 324, 549. dry, continuous production of (SHIMADZU), (P.), B., 195. phosphate, manufacture of (BLUMENBERG and STOCKHOLDERS Syndicate), (P.), B., 218.

colloidal, for cancer therapy (BISCHOFF and BLATHERWICK), A., 1110.

sulphate, manufacture of (DALOZE), (P.), B., 580. crude, manufacture of lead carbonate from (DALOZE), (P.),

B., 748. sulphido, crystal structure of (Bravo), A., 190. formation of films of, on glass (SMITH), A., 224.

equilibrium of cuprous and silver sulphides with (Schwarz and ROMERO), A., 628.

unipolarity of (Lüke), A., 402.

sweetening of petroleum distillates and mercaptans by (Morrell and Faragher), B., 803.

uranate, effect of a-particles from radon on solubility of (BALLEY), A., 928.

Lead organic compounds, manufacture of (MIDGLEY and GENERAL Motors Corp.), (P.), B., 349*.

Lead diphenyl dicyanide and dihalides (Zechmeister and Csabay), A., 891.

tetraethyl, manufacture of (Sullivan, Chalkley, and STANDARD OIL Co.), (P.), B., 237; (CALINGAERT and GEN. MOTORS CORP.), (P.), B., 428.

tetramethyl, influence of, on inflammability of hydrogen-air mixtures (Tanaka and Nagai), A., 1145.

tetraphenyl, preparation of (GILMAN and ROBINSON), A., 1098. tetra-2-thienyl (KRAUSE and RENWAUZ), A., 891.

triethyl salts (Browne and Reid), A., 452. Lead detection, determination, and separation :-

detection of, by the spot method (Tananaev), A., 1161.

detection of, in organs (Klostermann), A., 376.

determination of, in bismuth by spectrum analysis (Schweftzer), A., 1046.

determination of, as cyanide (GRUNDT), A., 745.

determination of, with ferrocyanide (Burstein), A., 847.

determination of, gravimetrically, as sulphate (Huybrechts and RAMELOT), A., 536.

determination of, by oxidation with persulphate (Ekwall), A.,

determination of, in metallurgical products and pigments (MoIntosh), B., 78.

determination of, in solder (Koch), B., 143.

determination of, in biological material (DANCKWORTT and Ude), A., 277.

determination of impurities in (EVANS), B., 911. separation of antimony and (AKT.-GES. FÜR BERGBAU, BLEI-& ZINKFABRIKATION, and DARIUS), (P.), B., 224.

separation of silver and (Brintzinger), A., 535; (Müller and HENTSCHEL), A., 1046.

Lead-copper particles, manufacture of (WILLIAMS and GEN. ELECTRIC Co.), (P.), B., 658.

Lead dross, treatment of (Chisholm and American Smelting & REFINING Co.), (P.), B., 819. Lead electrodes. See under Electrodes.

Lead ores, low-grade, preparation of, for flotation (Hendrickson and GRAND CENTRAL MINING Co.), (P.), B., 370.

oxide and sulphide, treatment of, and their mixtures with zinc ores (Corbould), (P.), B., 658.

sulphide, treatment of (Christensen), (P.), B., 337.

Lead paste from batteries, recovery of ingredients from (STEWART and CONSTANT Co.), (P.), B., 107.

Lead pipes, action of water on (FARINE), B., 318.

reinforced, for acids (Soc. Belge de l'Azote), (P.), B., 785.

Lead-silver ores, concentration of (ELLIS), B., 301. Leather, physical properties of (Povarnin), B., 586. hydroscopic properties of (HIRSCH), B., 824.

treatment of (LAMB and ROHM & HAAS Co.), (P.), B., 791*.

effect of humidity on destruction of, by acids (Wilson and KERN), B., 197.

action of sulphuric acid on (WOODROFFE and HANCOCK), B., 757. industry, bating materials in (Lenk), B., 284. bleaching of (ETABL. REYNIER and SZMUKLER), (P.), B., 421.

dyeing of. See under Dyeing.

Röntgen-ray examination of tanning of (KATZ and GERNGROSS), B., 150.

material for tanning and dressing of, from corn cobs (ATKINson), B., 373.

chrome tanning of (Shimidzu), B., 261; (Gustavson), B., 824.

Leather, action of iron black on (WOODROFFE and DEW), B.,

impregnation of with rubber (NUNN), (P.), B., 52. method of uniting raw rubber to (Enna), (P.), B., 229.

ornamentation of (British Bead Printers, Vredenberg, and Heynert), (P.), B., 872. pigment finishes for (Vogel), B., 685.

manufacture of coloured dressings for (I. G. FARBENIND. and FARBW. VORM. MEISTER, LUCIUS, & BRÜNING), (P.), B., 565. manufacture of substitute for (RESPRO, INC. and ABBOTT), (P.),

production of material resembling (SCHMITT), (P.), B., 611. manufacture of compounds of (MEYER), (P.), B., 120.

extraction of tannins and water-soluble matter in analysis of (Charters), B., 949.

Swedish Government regulations for weighting and analysis of (NORLIN), B., 393.

determination of moisture in (VEITCH and JARRELL), B., 636. utility and solvent action of fat solvents in determination of fat in (Lauffmann), B., 949.

determination of nitrogen in (FREY and HANN), B., 54. Leather, artificial, manufacture of (SCHARFF and NOBEL'S EXPLOSIVES Co.), (P.), B., 120; (MAGNUS), (P.), B., 150; (CLAVEL), (P.), B., 362.

chamois, preparation of (CLERMONTEL), (P.), B., 758.

manufacture of (KEMMLER), (P.), B., 306. chrome, production of gelatin and glue from (RINCK), (P.), B., 150*.

chrome-tanned, acidity of (Gustavson), B., 261. ageing of (Gustavson), B., 261.

analysis of (Hudson), B., 708.

heavy, stuffing of (PICKARD, LLOYD, and CAUNCE), (P.), B., 758*.

formaldehyde-tanned, tanning, dyeing, and finishing of (LAMB), B., 685.

insole, welted (Bradley and Colin-Russ), B., 949. mineral-tanned, manufacture of (WEBER), (P.), B., 306. patent (Enna), B., 20.

varnishing of (PAISSEAU), (P.), B., 21.

sole, action of sodium sulphide solutions in manufacture of (CASABURI), B., 948.

effect of filling materials on strength and stretch of (Wood-ROFFE and GILBERT), B., 497. effect of tanning and time on properties of (Caste and

PARSY), B., 260.

vegetable-tanned, action of hæmatin and its ammonia solutions on (Woodroffe and Meadows), B., 790; (Woodroffe and GILBERT), B., 791.

action of hydrochloric and oxalic acids on (WOODROFFE), B.,

analysis of (Anon.), B., 283.

Leather goods, treatment of (SCHMIDT), (P.), B., 421. japanned, preparation of (Haldinstein), (P.), B., 54.

Leather japans, iron compounds as driers for (Enna), B., 20. Leaves, free pentoses in (Colin and Franquet), A., 599.

green, absorption of light by chlorophyll solutions and by (Lasareff), A., 488.

effect of ionised air on assimilation and respiration of (WHIM-STER), A., 704.

Lecithin, preparation of (Levenk and Rolf), A., 586.

glycerol derivative of (BERGELL), (P.), B., 573. reaction of, with iodine (ROMIEU), A., 686.

Lecithins, synthesis of (GRÜN and LIMPÄGHER), A., 227.

Lecithinæmia, alimentary (Leites), A., 695.
Lecture experiments (v. Wartenberg), A., 537.
on chlorophyll (v. Lingelsheim), A., 80.

to show synthesis of nitric oxide and decomposition of methane (Plésniewicz), A., 225.

Ledum groenlandicum, oil from (LYNN, LEHMAN, and CAIN), B.,

Leguminosæ, biological and immunological reaction of globulins from (Wells, Lewis, and Jones), A., 800.

fermentation characters of root nodule bacteria of (Baldwin and FRED), B., 856.

Lemons, constituents of (WILLIMOTT and WOKES), B., 615. non-volatile acids of (Nelson), A., 799.

Lemon juice, antiscorbutic factor from (ZELVA), A., 487, 702; (Hoyle and Zilva), A., 1224. Lemon oil, Italian (ALBRICCI), B., 458.

Lens. a- and β -crystallins from (Woods and Burky), A., 1215.

Lens, crystalline, effects of acids, alkalis, and salts on structure of (CATTANEO), A., 894. Lepidolite from Nagatori (TIMORI and YOSHIMURA), A., 129. Leprosy, chemistry of blood in (PARAS), A., 1106. Leptospermum lanigerum, essential oils of (Penfold), B., 28. Lettuce, vitamin-A content of, in relation to chlorophyll content (DYE, MEDLOCK, and CRIST), A., 904. Leucæmia, glycolysis in blood in (SCHMITZ and GLOVER), A., 1105. tert.-Leucine, synthesis of (ABDERHALDEN and ROSSNER), A., 576, anhydride, NN'-dibromo-derivative (Goldschmidt, WIBERG, NAGEL, and MARTIN), A., 983. Leucite, alkaline treatment of (JOURDAN), B., 106. dl-Leucyl-dl-aminoheptoic anhydride (ABDERHALDEN and Ross-NER), A., 576. Leucyl-dl-amino-n-octoic anhydride (ABDERHALDEN and Ross-NER), A., 576. dl-Leucyl-δ-aminovaleric acid, and its behaviour with polypeptidase (Abderhalden and Hartmann), A., 1113. 1-dl-Lencyl-2:5-diketopiperazine (ABDERHALDEN and SCHWAB), Leucylglycine, phenylurethane of (BERGMANN, MIEKELEY, and Kann), A., 1202. dl-Leucylglycine anhydrides, and their derivatives (Abder-HALDEN and ROSSNER), A., 576. d- and l-Leucylglycyl-l-tyrosines, and their action with enzyme solutions (ABDERHALDEN and SCHAPIRO), A., 1113. Leucylnorleucines (ABDERHALDEN and Rossner), A., 576. dl-Leucyl-dl-phenylalanine anhydrides (ABDERHALDEN and Ross-NER), A., 576. dl-Leucyltyramine (ABDERHALDEN and SCHWAB), A., 1112. Lichenin (HESS and FRIESE), A., 860. structure of (Bergmann and Knehe), A., 341. relation of, to lichosan (PRINGSHEIM and ROUTALA), A., 136. triacetate, cryoscopy of (Bergmann, Knehe, and v. Lippmann), A., 1173. Lichohexosan (BERGMANN and KNEHE), A., 341; (HESS and FRIESE), A., 860. Liehosan (HESS and FRIESE), A., 860. relation of, to lichenin, and its acetate (PRINGSHEIM and ROUTALA), A., 136. Liesegang rings (NAMASIVAYAM; COPISAROW), A., 199. formation of (GANGULY), A., 514. in serological precipitation (Reiner and Kopp), A., 932. Light, spectra of, emitted during reactions (LJALIKOV and Terenin), A., 89. sources, of, for continuous spectrum (SNYDER), A., 1163. photographic investigation of colour of (CUNLIFFE and FARROW), B., 871. for testing fastness of dyes (HADFIELD), B., 905. distribution and intensity of (PLOTNIKOV), A., 119. measurements of intensity of, in the electric discharge (SCHAUM and TRAUTLUFT), A., 1007. depolarisation of, by disperse systems (Pokrowski), A., 1123. by organic vapours (Cabannes), A., 8. radiation and absorption of, on Schrödinger's theory (SLATER), quanta in an interference field (BOTHE), A., 494. oxidation in (Eckert), A., 881. scattering of (RAMDAS; POKROVSKI), A., 93. by aromatic compounds (BANERJEE), A., 1127. by aqueous salt solutions (SWEITZER), A., 510. by liquids (RAMDAS), A., 812. by liquids at high temperatures (RAO), A., 1127. in binary liquid mixtures (KAR), A., 295. by organic gases and vapours (RAO), A., 1127. by salt solutions (Sweitzer), A., 932. by smokes (Patterson and Whytlaw-Gray), A., 9. molecular scattering of, in liquids (Venkateswaran), A., 713, 921; (CABANNES), A., 921. in binary mixed liquids (RAMAN), A., 1009. retardation of reactions by (Allmand and Maddison), A., 428.

influencing of biological reactions brought about by (PIN-

intermittent, photochemical action of (PADOA and VITA), A.,

dispersion of, by organic liquids (Voellmy), A., 812. standardisation of (Moss and Knapp), A., 322; B., 634.

cussen), A., 482.

Elsenbrand), A., 1017.

528.

Light, ultra-violet, apparatus for treating fluids with (QUARZ-LAMPEN-GES.), (P.), B., 321. utilisation of, for combustion in heat engines (Studiences. FÜR WIRTSCHAFT & IND.), (P.), B., 517. colouring of manganese glass in (Cross), A., 1005. effect of, on growth of rats (LEIGH-CLARE), A., 382. Light filters, artificial, manufacture of (Holub), (P.), B., 295. Lightning, chemistry of (ESTALELLA), A., 183. ball, spontaneous decomposition of (Mathias), A., 290. Lignin (Fuchs and Honsic), A., 137; (Kürscheer-Brünn), B., 164; (FREUDENBERG and HARDER), A., 342; (DORÉE and Barton-Wright), A., 597; (Friedrich), A., 861; (PHILLIPS), A., 961. formation of (Fuchs), A., 283. from wood (FALCK and HAAG; SCHORGER), B., 213. from pine wood (SCHWALBE and EKENSTAM), B., 183. ultra-violet absorption spectrum of (HERZOG and HILLMER), A., 342. and its derivatives, ultra-violet absorption spectra of (Henzog and HILLMER), A., 861. autoxidation of (DITZ and MAY), B., 327. crystalline products from (RITTER), A., 650. acetals (Hägglund and Urban), A., 753. pine, thermal fission of (Fuchs), A., 546, 650. technical Willstätter, distillation of, with silver powder (Fuchs), A., 546. Lignite, definition of the term (STADNIKOV and PROSKURNINA), density of, and of coke therefrom (Dolch), В., 97. low-temperature carbonisation of (BRETHERICK and GLOSSOP), (P.), B., 930. hydrogenation of, in presence of bicarbonate solutions (Fischer and Jäger), B., 271. production of combustible or plastic material from (JIROTKA), (P.), B., 867. illuminating gas from (Seidenschnur), B., 737. displacement of moisture in, by oils (BERL and IMMEL), B., 690. growth of moulds on (FISCHER and FUCHS), B., 719. differentiation of peat and (SPRINGER and ABELE), B., 401. dust, influence of bitumen content of, on its explosiveness (STEINBRECHER), B., 593. New Zealand, microstructure of (Evans), B., 690. Lignites, chemical constituents of (MARCUSSON), B., 898. ash content of (FISCHER and FUCHS), B., 833. Lignite tar. See under Tar. Lignocellulose, gelatinisation of (Schorger), B., 213. Lignone, manufacture of products containing derivatives of (Cross and Engelstad), (P.), B., 185 Lignosulphonic acid, reducing power of (Kurtz), B., 164. Lime. See Calcium oxide. Lime sludge, product from manufacture of (HERRLY and PREST-O-LITE Co.), (P.), B., 655. Lime water for use in water purification (Morgenstein and Hagen), (P.), B., 350. Limestone, effect of steam on decomposition of (Berger), B., 476. burning of (Meade; Azbe), B., 476. calcination of, in vertical kilns (Hauts Fourneaux & Acieries Differdance-St. Ingbert-Rumelance and Lavandier), (P.), B., 556. dolomitic, calcination of (Briscoe), B., 580. Limnoria lignorum, absence of cellulase in (Yonge), A., 691. Limulus, extraction of urease from amæbocytes of (Loeb and Bodansky), A., 484. Limulus polyphemus, carapace of (FRÄNKEL and JELLINEK), A., 788. l-Linalöol, catalytic action of Japanese acid earth on (Ono and TAKEDA), A., 464. Linoleic acids, reduction of, and their rebromination (SMITH and West), A., 540. a-Linoleic acid tetra bromide. See Stearic acid, θιλμ-tetra bromo-. Linolenic acid, hexabromo-, salts (IMPERIAL and WEST), B., 236. Linolenic acids, reduction of, and their rebromination (SMITH and West), A., 540. Linoleum cement, manufacture of (SLANSKY and DEUTSCHE LINOLEUM-WERKE HANSA), (P.), B., 119; (CRAVEN, BEDFORD, and Yorkshire Dyeware & Chemical Co.), (P.), B., 756. ultra-violet, measurement of absorption of (v. Halban and a-Linolic tetrabromide, salts of (Jovellanos and West), A., 1168. Linoxyns, preparation of substances resembling (Consortium

ELEKTROCHEM. IND., DEUTSCH, and HERRMANN), (P.), B., 305,

419.

Linseed meal, formation of hydrocyanic acid from (HANSEN),

Linseed oil, boiling of (Long, Knauss, and Smull), B., 146. increase of molecular weight in boiling of (Long and Wentz; Long and Arner), B., 82.

drying of (Evans, Marling, and Lower), B., 450; (Slansky).

B., 787.

influence of copper compounds on (WILBORN), B., 707. containing cobalt acctate (Evans, Marling, and Lower),

fractionation of, at high temperature (Chattaway), B., 584. and its glyceride, action of heat and blowing on (LONG, EGGE, and WETTERAU), B., 754.

oxidation of (Holden), B., 530.

effect of foreign oleaginous seeds, when crushed with flax seed, on drying and bodying properties of (Eastman and Taylor), B., 754.

determination of break in (Jamieson and Baughman), B., 118. with a positive Storch-Morawski reaction (Wolff), B., 196. detection of, in soya-bean oil (CARRIÈRE), B., 493.

Lipæmia, alimentary (Leites), A., 695.

Lipase, stereochemical specificity of (Rona and Ammon), A., 377. of leucocytes (Shoda), A., 590.

pancreatic, activation of (Bulkov and Fursikov), A., 697. influence of amino-acids on hydrolysis by (Dawson), A., 483. action of quinine and carbamide on (Smorodingev and Danilov), A., 377.

serum, of warm-blooded aminals, influence of poisons on (Kudrjavzeva), A., 1112.

Lipins, characteristics of (TERROINE and BELIN), A., 371.

rôle of, in biology (SURANYI), A., 1108. distribution of, in muscle (BLOOR), A., 477. metabolism of. See under Metabolism.

nutritive value of (TAKAHASHI), A., 898.

excretion of (SPERRY), A., 273.

Lipoid acids, preparation of salts of (Behringwerke A.-G.), (P.), B., 573.

Lipoid-histiocytosis, analyses of spleen in (BLOOM and KERN), A., 587.

Liquefaction and fractionation of mixed gases (Mewes), (P.), B., 241.

Liquefaction apparatus (SCHLITT, DENNIS, and AIR REDUCTION Co.; VAN NUYS and AIR REDUCTION Co.), (P.), B., 65.

Liquids, molecular constitution of (KISTIAKOVSKI), A., 714. molecular association in (STACHORSKI), A., 404, 1139.

influence of insoluble materials on physical properties of (PEEL, ROBINSON, and SMITH), A., 1019.

refractive index and dispersion of, at extreme temperatures Herz), A., 813.

diffraction of X-rays by (ZERNIKE and PRINS), A., 295; (STEWART and Morrow; RAMAN and SOGANI), A., 1015; (SOGANI), A., 1129; STEWART, MORROW, and SKINNER),

X-ray diffraction patterns from (CLARK), A., 816; (CLARK, ABORN, BRUGMANN, and DAVIDSON; SOGANI), A., 924.

influence of X-rays on the Faraday effect and on optical rotation in (ALLISON), A., 1130.

scattering of light by (RAMDAS), A., 812. at high temperatures (RAO), A., 1127.

molecular scattering of light in (CABANNES; VENKATESWARAN),

electric double refraction of (RAMAN and KRISHNAN), A., 397. magnetic double refraction of (RAMAN and KRISHNAN), A., 92. determination of coefficient of magnetisation of (ARCAY and FALLOT), A., 1131.

thickness of optical transition layer in (RAMAN and RAMDAS), A., 188.

apparatus for determination of conductivity of (Goldschmidt), A., 128.

variation of dielectric constants of, with pressure (Kyropoulos), A., 92.

dielectric constants of thin layers of (KALLMANN and DORSCH), A., 618.

structure at surfaces of (McBain), A., 930.

tangential forces at surfaces of (HULSOF), A., 930. Maxwell effect in (RAMAN and KRISHNAN), A., 1130.

relation between capillary constant and heat of vaporisation of (WALDEN), A., 194.

determination of specific heat of (PACKARD and CUTLER-HAMMER MANUF. Co.), (P.), B., 160.

Liquids, influence of temperature on free space of (Herz), A., 294. heating of (Callebaut and De Bliquy), (P.), B., 319; (LAMBERT and LAMBERT HEATER & ENGINEERING Co.), (P.), B., 831.

apparatus for heating (TAYLOR and STUBBING), (P.), B., 129. cooling or heating apparatus for (WILKINSON), (P.), B., 623. density of (Shaxby), A., 12.

coefficients of expansion and compressibility of (VEKLJAN), A., 103.

expansion and heat of vaporisation of (DE KOLOSOVSKI). Å., 302.

internal pressure and latent heat of evaporation of (STACHORsky), A., 506.

temperatures of equal internal pressure of (Herz), A., 102.

internal compression of (Gapone), A., 404. theory of diffusion of (Wilke and Strathmeyer), A., 104. viscosity of, above the boiling point (TITANI), A., 616, 819, 927, 1019.

production of, in a solid state (I. G. FARBENIND.), (P.), B., 173*, 863.

crystallisation of (Walker), (P.), B., 896.

conjugate pairs of, and their analogy with systems of one liquid and one vapour phase (BOUTARIO), A., 303. measurement of absorption of gases by (RIOU), A., 224.

spheroidal state of, on heated metal surfaces (Móscicki and

BRODER), A., 200. treatment of (Lourens and N.V. Algem. Norit Maats.), (P.), B., 545*.

with gases (RENOTTE; BARTH), (P.), B., 464.

apparatus for (SMITH), (P.), B., 2.

with one another (DICKEY and GEN. PETROLEUM CORP. OF California), (P.), B., 433.

regulation apparatus for discharge of, into one another (AMES), (P.), B., 321.

apparatus for expressing, from materials (KRUPP GRUSONWERK and Noblee & Thorl, Nachfold.), (P.), B., 176; (Krupp GRUSONWERK), (P.), B., 241. concentration of (McLaughlin), (P.), B., 207.

by vaporisation (LEMALE), (P.), B., 241.

concentrator for (Vogelbusch), (P.), B., 959*. apparatus for concentration or solidification of (WARBURTON).

(P.), B., 832.

devices for mixing, churning, or agitation of (RUBEN, LTD. and RUBEN), (P.), B., 832.

mixing of, for producing dispersion systems (Geiox A.-G.), (P.), B., 639. purification of (Sharples Speciality Co., Sharples, and Jones).

(P.), B., 1. purification and decolorisation of (SAUER), (P.), B., 434*.

purification, decoloration, and deodorisation of (L'ULTRA-FILTRE), (P.), B., 512.

indicating or controlling device operating in presence of impurities in (DEUTSCHE GASGLÜHLICHT-AUER-GES.), (P.), B., 832.

clarification of (Graham, Rumsey, Wetherbee, and Gilchrist & Co.), (P.), B., 32, 640*; (Marx), (P.), B., 591. filtration of mixtures of (GENTER and GENTER THICKENER Co.), (P.), B., 831.

separation of (Hele-Shaw and Beale), (P.), B., 1.

from materials (LEVER BROS., LTD. and CLOUDSLEY), (P.), B., 129.

from solids (Symington), (P.), B., 896.

centrifugal separation of (Tufts; Alexander), (P.), B., 433. from solids (Bergedorfer Eisenwerk), (P.), B., 671; (KLEIN), (P.), B., 767.

of different specific gravity, apparatus for separation of (FISHER and FISHER ENGINEERING CORP.), (P.), B., 959.

separation of suspended matter from (HAWLEY), (P.), B., 1. atomisation and desiccation of (NESTLE and ANGLO-SWISS CONDENSED MILK Co.), (P.), B., 207. apparatus for atomisation of (WRIGHT), (P.), B., 896.

production of small bubbles of gas in, by submerged orifices (MAIER), B., 895.

de-aeration of (Svensson and Norling), (P.), B., 176. apparatus for bringing gases into contact with (Holmes, HENSHAW, and HOLMES & Co.), (P.), B., 768. dispersion of solids in (Whatmough), (P.), B., 831.

apparatus for treatment of mixtures of solids and (STEEN), (P.), B., 800.

apparatus for hydrogenation of (Schueler), (P.), B., 690

Liquids, sterilisation and preservation of (Seligmann), (P.), B., anisotropic (Freedericksz and Repiewa), A., 505.

dipole theory of (Szivessy), A., 94.

anomalous, electrostatic theory of (BIKERMANN), A., 16. aqueous, decolorisation of (British Dyestures Corp., Hollins, and Chapman), (P.), B., 897.

crystalline. See Crystalline liquids.

dry, electrostatic charges on glass floats in (Briscoe, Robinson,

and SMITH), A., 192.

elastic, theory of streaming of (Reiner and Riwlin), A., 1019. heavy, for use in separation of minerals (SULLIVAN), B., 414. immiscible, separation of (Sharples Speciality Co. and Jones), (P.), B., 1.

inflammable, apparatus for storage and supply of (Beaumont

and Anglo-American Oil Co.), (P.), B., 135. spontaneous ignition temperatures of (Tanaka and Nagai), B., 5.

insulating, surface tension of, in an electric field (BRUHAT and PAUTHENIER), A., 104.

mixed, heat of mixing of (MADGIN and BRISCOE), A., 521. distillation and rectification of (GAY), A., 928.

vacuum distillation of (Schmalenbach), (P.), B., 434. fractionation of (Grabowski), A., 196.

having different boiling points, separation of (Chur), (P.),

B., 544. surface tension of, near the critical point (Brun), A., 508.

capillarity and displacement of (SCHULTZE), A., 197. binary (Weissenberger and Henke), A., III; (Weissen-

BERGER), A., 112.

molecular scattering of light by (KAR), A., 295. internal friction and constitution of (KREMANN, SPRINGER, and Roth), A., 1132.

volatile, with a partially dissociated component (MICHAUD),

A., 730, 819.

organic, dielectric constants of (Kerr), A., 13. non-conducting, electrical precipitation and separation of suspended matter in (METALLBANK & METALLUROISCHE GES.), (P.), B., 849.

non-corrosive (SHERBINO and HYDRAULIC BRAKE Co.) (P.),

B., 207.

oleaginous, drying of (CALDWELL and CELITE Co.), (P.), B., 170. organic, ultra-violet dispersion of (VOELLMY), A., 812.

magnetic susceptibility of vapours of (VAIDYANATHAN), A., 1131.

absorption of sulphur dioxide by (Weissenberger and

HADWIGER), B., 617. pasty, automatic apparatus for the determination of moisture in (Rössler), B., 895.

saturated, filtration apparatus for (WEBER and DUNLAP),

true, mixtures of, with suspensions (Mallock), A., 1138. unassociated, molecular diameter of, at the boiling point (DE Kolosovski), A., 189.

viscous, continuous heating of (STEELY), (P.), B., 768. heating or cooling of (GRISCOM-RUSSELL Co. and JONES), (P.), B., 434.

relation of temperature to surface tension of (Tammann and RABE), A., 618.

volatile, apparatus for extraction and recovery of (IRONSIDE),

(P.), B., 512*. flask for recovery of (NIERENSTEIN), A., 38.

recovery of, by cooling (Weissenberger), B., 623. separation of, from solids (WILSON and BALTIMORE GAS

Engineering Corp.) (P.), B., 64.

apparatus for dehydration of (LORIETTE), A., 128. analysis of (FAUST and FISCHER), A., 125.

wool-scouring, containing oil or fatty substances, treatment of AVERY and AUSTRALIAN LANOLINE PROPRIETARY), (P.), B., 746*.

analytical apparatus for (HATFIELD), (P.), B., 207.

detection of impurities in, electrolytically (CROCKATT & Sons and CROCKATT), (P.), B., 303.

Lithium, spectrum of (Sugiura), A., 909.

transition probabilities in (TRUMPY), A., 998.

spark spectrum of (Schüler), A., 489. scattering power of (Bijvoet, Claassen, and Karssen),

ionisation potential of (MILLIKAN and Bowen), A., 913. second ionisation potential of (PAULING), A., 287.

Lithium alloys with aluminium (CZOCHRALSKI, WELTER, and ALLIED PROCESS CORP.), (P.), B., 338*.

with lead (Czochralski and Rassow), A., 418.

Lithium azidodithiocarbonate (Browne, Audrieth, and Mason), A., 430.

bromide and iodide, dispergation of cellulose in (v. WEIMARN and Juna; v. Weimarn and Yoneda), A., 824.

carbonate, preparation of (Weidmann and Allied Process Corp.), (P.), B., 555.

chlorate, solubility of, in water (KRAUS and BURGESS), A., 627. hydrates of (Berg), A., 1042.

chloride, impact of slow cations on, in high vacuum (BADAREU), A., 1002.

decomposition potential of, in methyl alcohol solution (BISWAS and BOSE), A., 422. equilibrium of lead chloride, water, and (Deacon), A., 1030.

fluoride, reflexion of Röntgen rays by (HAVIGHURST), A., 95. electron distribution in crystals of (Havighurst), A., 191. eutoctic mixtures of magnesium fluoride and (Hyniski and Antipine), A., 1145.

halides, equilibria of, with water (HÜTTIG and STEUDEMANN),

A., 517. iodide, oxidation of (SIMMONS and PICKETT), A., 429.

nitrate, equilibrium of silver nitrate and (PALKIN), A., 939. Lithium organic compounds:-

Lithium n-butyl, reaction of, with organic halogen compounds (MARVEL, HAGER, and COFFMAN), A., 1059. triphenylmethyl, and its etherate (v. Grosse), A., 46.

Lithium detection and determination :-

detection of, spectrochemically (HUKUDA), A., 745. determination of, in aluminium alloys (Schürmann and Böhm),

Lithium ions, hydratation of (Baborovsky and Velfšek), A., 734. Lithopone, manufacture of, basic zinc sulphate liquors in (HIR-SCHEL), B., 707.

properties of (HIRSCHEL), B., 259.

drying and calcining of (GRAVES and GRASSELLI CHEMICAL Co.), (P.), B., 531.

light sensitivity of (BRICKWEDDE), A., 634.

quenching of (KREBS and KREBS PIGMENT & CHEMICAL Co.), (P.), B., 531.

oil absorption of (KLUMPP), (P.), B., 340.

light-resistant, production of (BOOGE and DU PONT DE NEMOURS & Co.; SCHANCHE and DU PONT DE NEMOURS & Co.), (P.), B., 305.

Litmus paper, neutral, as indicator (EKHARD), A., 434. Liver, functions of (McClure and Huntsinger), A., 372. effect of low atmospheric pressure on (Loewy), A., 792.

composition of, in experimental spirochætosis (Inada), A., 789. action of pulp of, on ammonium cyanate (Fosse and Rouchel-MANN), A., 585.

cystine in (HUNTER and EAGLES), A., 478. hydrolysis of phosphoric esters in (RIESSER), A., 174.

phosphorus distribution and hydrolysis in (ODA), A., 282. oxidation of uric acid in (SCHITTENHELM and CHROMETZKA), A., 278.

protein test for function of (COHEN and LEVIN), A., 791. lævulose tolerance test for efficiency of (King), A., 1217. ox, nitrogenous extractives of (HIWATARI), A., 1215.

Lobelia, manufacture of active principle of (WIELAND and BOEHRINGER SOHN), (P.), B., 893*.

Loganberries, non-volatile acids of (Nelson), A., 798.

Lolium remotum, toxicity of (v. Lingelsheim), A., 799. Lophine, salts of (STRAIN), A., 979.

Lovtchorrite (Bonstedt, Nenadkevitsch, and Starynkevitsch-Bornemann), A., 129.

Lubricants (HONAN, TOWNSEND, and WESTERN ELECTRIC Co.), (P.), B., 96; (BECKER and STANDARD DEVELOPMENT Co.; WILLOCK, CAPLAN, BABB, and WAVERLY OIL WORKS Co.), (P.), B., 516.

manufacture of (Montgomery), (P.), B., 577.

containing water (HeITMAN), (P.), B., 695. for automotive engines (LOCKHART and STANDARD OIL Co.), (P.), B., 807.

from petroleum (MABERY), B., 402.

for rubber stopcocks (SHEPHERD and LEDIC), A., 1048. Lubricating compounds (HAMILTON), (P.), B., 2

Lubricating oils, production of (KRAMER and SIMPLEX REFINING

Co.), (P.), B., 246*. from coal (Nielsen and Baker), B., 834. Lubricating oils, production of, from coal-tar oil (Zeche M. Stinnes and EICKEL), (P.), B., 183.

composition and synthesis of (SPILKER), B., 576.

filtration of (GARLAND and BEACHAM), (P.), B., 35.

filtering apparatus for (GARLAND, BEACHAM, and PICKARD), (P.), B., 695. purification of, from carbonaceous material (ARTIEBOLAGET

SEPARATOR and McBerty), (P.), B., 35.

apparatus for vacuum distillation of (GAVIN and FOSTER), В., 930.

heat-exchange apparatus for (Storoni), (P.), B., 7.

changes in, after use (ROSEWARNE), B., 5.

used, purification of (LANGSTON and WAYNE Co.), (P.), B., 806;

(STREET and Hey), (P.), B., 931. regeneration of (BENSMANN), (P.), B., 516; (WISCHIN), B., 547. volatility and carbonisation of, for cylinder lubrication (DONALDson), B., 642.

deleterious properties of (HACKFORD), B., 272.

production of emulsions of (OELWERKE STERN-SONNEBORN), (P.), B., 182.

measurement of bloom of (Henderson and Cowles), B., 624. calculation of flash points of (THIELE), B., 355.

bromination of (MABERY), B., 577.

oxidation of (Moore and Barrett), B., 132. addition of di- or tri-acetoneamine to (SOMERVILLE), (P.), B., 291. as insecticides in dormant spraying (GREEN), B., 760.

mineral, refining of (WEIR), (P.), B., 7.

viscous, manufacture of (Schicht A.-G.), (P.), B., 304. laboratory tests of (Marshall and Barton), B., 400.

analysis of (MEYERHEIM and FRANK), B., 34.

Lucerne (alfalfa), bacterial decomposition of (WAKSMAN and TENNEY), B., 22.

production of nodules on roots of, growing in soils of different reaction (KARRAKER), B., 760.

removal of nutrients from subsoil by (MILLAR), B., 421. Lucerne hay, net energy values of (Forbes, Braman, Kriss, FRIES, JEFFRIES, SWIFT, FRENCH, and MANCHER), B., 712.

Luciferase, oxidation-reduction potential of the system luciferin, (HARVEY), A., 277.

Luciferin, oxidation-reduction potential of the system luciferase,

(HARVEY), A., 277.

Lumbang oil, composition of (SMITH and WEST), A., 540. hexabromolinolenates from (IMPERIAL and WEST), B., 236. linoleic tetrabromides from (Santiago and West), B., 304. Philippine, salts of a-linolic tetrabromide from (Jovellanos and West), A., 1168.

Luminescence due to radioactivity (Kabakitan), A., 290. of incandescent solids (Nichols), A., 91.

of solidified gases (VEGARD and KEESOM), A., 1124.

during oxidation in aqueous solutions (Mallet), A., 811. anticathodic, of organic compounds (MARSH), A., 292.

Luminescent products (GUNTZ), (P.), B., 340*.

Lungs, rôle of, in nitrogen metabolism (TSCHARNY), A., 1108.

Lupeol, composition of (Nöjd), A., 772.

a- and β-alloLupeols, and their salts (Nöjd), A., 772.

Lupeylene (Nöjd), A., 772.

Lupins, removal of bitter constituents from (Ges. für Lupinen-IND.), (P.), B., 426.

See also Lupinus luteus.

Lupinus luteus, galactoaraban in seeds of (Heiduschka and Tettenborn), A., 1226.

Luteolin tetramethyl ether (FREUDENBERG and KAMMÜLLER), A., 251.

Lycium carolinium, colouring matter of (KYLIN), A., 669.

Lycogala epidendron, constituents of plasmodium of (Kiesel),

Lycopersicum esculentum, colouring matter from (KYLIN), A., 669. Lycopodium clavatum spores, extraction of hydrocaffeic acid from (Zetzsche and Huggler), A., 767.

Lymph, relation between blood and, in dogs (Arnold and Mendel), A., 475.

Lyotropy (Kruyt and Robinson), A., 311.

Lysichiton camtshatcene (skunk cabbage), constituents of (LYNN and CHENG), B., 316.

Lysimeter tanks, examination of drainage waters from (HIGBY), B., 729.

Lysine, conductivity of mixtures of sulphanilic acid with (STEARN),

Lysol, determination of cresol and phenol in (Järvinen), B., 596. a-Lysuric acid. See Dibenzoyl-lysine.

M.

Macadam, tarred, manufacture of (WAKE), (P.), B., 334.

Machines, centrifugal. See Centrifugal machines.

Machine grease, determination of the sand content of (BUNGE), B., 209.

Magne-crystallic action, Tyndall's experiments on (Bracc), A., 1016.

Magnesite. See Magnesium oxide.

Magnesium, isolation of (Matignon and Marchal), A., 430.

manufacture of (KEYES), B., 390.

by electrolysis of its molten chloride (Jessup), (P.), B., 880. production of nitrogen and (MINOR and ANGLO-CALIFORNIA TRUST Co.), (P.), B., 605.

and its alloys (JONES), B., 681; (GANN and WINSTON), B., 879. refining of (AMERICAN MAGNESIUM CORP.), (P.), B., 490. electrometallurgy of (HYNISKI and ANTIPINE), A., 1145.

treatment of, for easting (MICHEL), (P.), B., 80. fluxes for welding of (BOOER, BRITTEN, and DISTRICT CHEMI-

CAL Co.), (P.), B., 194.

melting, alloying, and casting of (DE FLEURY), B., 15. instantaneous spectrum of (NAGAOKA, NUKIYAMA, and FUTA-GAMI), A., SO9.

spark spectrum of (Wetterblad), A., 491.

Zeeman and Paschen-Back effect in spectrum of (VAN (IEEE)), A., 83.

potential of (Latimer), A., 941.

density of, at the melting point (ENDO), A., 718.

and its alloys, protection of, from oxidation (I. G. FARBENIND.), (P.), B., 491; (I. G. FARBENIND. and CHEM. FABR. GRIESHEIM-ELEKTRON), (P.), B., 605; (MICHEL), (P.), B., 785.

coatings for (Cournot, Bary, and Pérot), B., 489. and its alloys with aluminium, coating of metals with (Hor-FELT and NOLDEN), (P.), B., 912.

active, reactions of (TERENTIEV), A., 740.

reactions of, on heating with solid salts (Garre), A., 430.

reaction region for aluminium, sulphur, and (Jorissen and ONGKTEHONG), A., 112.

action of liquid ammonia solutions of alkali and alkaline-earth salts on (Bergstrom), A., 30.

action of, on tribromopropane (Krestinski), A., 441.

reaction between cinnamyl chloride, carbon dioxide, and (GILMAN and HARRIS), A., 874.

reaction of sulphur with (DANNEEL and FRÖHLICH), A., 843. and its iodide, action of, on aromatic ketones (Gomberg and Bachmann), A., 245.

Magnesium alloys, improvement of (I. G. FARBENIND.), (P.), B., 881.

influence of casting conditions on tensile properties of (Schreiber), B., 940.

light, rate of solution of (Portevin and Preter), B., 657.

with aluminium, resistant to corrosion (SCHMEDT), (P.), B., 606. with aluminium and zine, age-hardening of (Meissner), B., 969.

with cadmium, equilibria of (Home-Rothery and Rowell), B., 817.

with copper (Cook and Jones), B., 817. magnesium-rich (Hansen), B., 255.

with silver (LAFFITTE), A., 219.

with tin (Hume-Rothery), A., 1029.

with zine (Dow, Gann, and Dow Chemical Co.), (P.), B., 114. Magnesium salts from sea water (NICCOLI), B., 249.

tolerance for, in relation to calcium in blood (MATTHEWS and Austin), A., 380.

Magnesium carbonate, lattice spacing and rhombohedral angle of (Brentano and Dawson), A., 297.

trihydrate for fireproofing fabrics (Burke and Du Pont Viscoloid Co.), (P.), B., 775.

sodium carbonate (RUBINSTEIN and SOLT & KRONSTEIN), (P.),

B., 188. perchlorate trihydrate, adsorption of water and carbon dioxide by, in metabolism experiments (Lee and Brown), A., 800.

chloride, anhydrous, manufacture of (COMP. PROD. CHIM. & ELECTROMÉTALLUEGIQUES ALAIS, FROGES, & CAMARGUE), (P.), B., 580.

cooling and crystallisation of solutions of, saturated with potassium and sodium chlorides (Kölichen), B., 476.

dehydration of fused mixtures of alkaline-earth chlorides and (1. G. FARBENIND.), (P.), B., 218.

25

Magnesium chloride and nitrate, equilibria of, with potassium and sodium chlorides and nitrates (FROWEIN and V. MÜHLENDAHL),

chromate, production of (I. G. FARBENIND.), (P.), B., 814. and dichromate, preparation of (Kränzlein, Voss, and Grasselli Dyestuff Corp.), (P.), B., 778.

and sulphate, crystal structure of (Westenbrink), A., 297. fluoride, eutectic mixtures of lithium fluoride and (HYNISKI

and Antipine), A., 1145. titanium fluoride, fluosilicate, and fluostannate, crystal structure of (Hassel and Salvesen), A., 1014.

fluoborates (Wilke-Dörfurt and Balz), A., 120.

hydride, band spectrum of (WATSON and RUDNICK), A., 395; (Watson), A., 1005.

oxide (magnesia; magnesite), manufacture of (Drewsen and WEST VIRGINIA PULP & PAPER Co.), (P.), B., 629. production of, from magnesium chloride (Verein für Chem.

& Met. Prod.), (P.), B., 364, 480; (Chem. Fabr. Wolk-RAMSHAUSEN and HELBIG), (P.), B., 480. from ores (van den Bergh), (P.), B., 965.

solubility of, in solutions of magnesium salts (Feitknecht), B., 73.

calcination of (Stehmann), (P.), B., 190; (Magnesit-Industrie), (P.), B., 389, 482.

action of, on beryllia (MATIGNON and MARCHAL), A., 1155.

burnt, analysis of (KALLAUNER), B., 106. selenide and sulphide, lattice constants of (Вкоси), А.,

phosphates, preparation and solubility of, compared with those of calcium and aluminium (UNGERER), B., 55.

bromohydroselenide, additive compound of, with pyridine (Mingoia), A., 147.

sulphate, production of, from Manchurian magnesite (MATsuura), B., 677.

octahydrate (Benrath and Schröder), A., 430.

zine sulphate, hydrated, crystal structure of (Westenbrink), A., 400, 417.

sulphite, treatment of waste liquors of (Drewsen and West Virginia Pulp & Paper Co.), (P.), B., 139.

bromohydrosulphide, use of, in organic syntheses (MINGOIA), A.,

telluride, crystal structure of (Zachariasen), A., 1013. dizincide, crystal structure of (FRIAUF), A., 190.

Magnesium organic compounds, constitution of (Jolibois; Job and Dubien), A., 233.

formation of peroxides in oxidation of (Wuyts), A., 451. action of, on N-diethylformamide (MAXIM), A., 866.

on dimethyleyanamide (VUYLSTEKE), A., 346.

on ethyl diethyloxamate (McKenzie and Duff), A., 755.

on nitriles (Theunis), A., 653; (Petit), A., 773. on oximino-ketones (Orekhov and Tiffeneau), A., 872. on N-tetraethylphthalamides (MAXIM), A., 458.

on a-trisubstituted primary amides (RAMART, LACLÔTRE, and Anagnostopoulos), A., 875.

Magnesium alkyl halides, reactions of (Späth), A., 451. benzyl chloride, action of, on glutaronitrile (BRUYLANTS and DEWAEL), A., 233.

diethyl, preparation of, and its reaction with acetyl chloride (GILMAN and SCHULZE), A., 1060.

diphenylphosphine bromide (Job and Dusollier), A., 785. ethyl bromide, condensation of benzaldehyde and (Teren-TIEV), A., 152

halides, action of cyanogen chloride on (GRIGNARD and ONO), A., 130.

methyl iodide, action of, on cycloheptene oxide (Godehot and Bedos), A., 233.

phenyl bromide, action of, on trisubstituted acetonitriles (RAMART and SALMON-LEGAGNEUR), A., 246.

reaction of carbon monoxide with, in presence of chromium chloride (Job and Cassal), A., 865.

reaction of chromium chlorides with (Hein, Reschke, and Pintus), A., 548.

reaction of nitrosobenzene with (GILMAN and McCracken), A., 550. action of trichloroethylene and tri- and tetra-chloro-

ethane on (Bert), A., 1051. phenyl iodide, action of tungsten hexachloride on (BRYOWNA),

platinocyanide heptahydrate, crystal structure of (Bozortii and HAWORTH), A., 297.

Magnesium organic compounds :-

Magnesium pyrryl iodide, action of ethyl oxalate on (Godney and NARYSCHKIN), A., 162.

See also Grignard reagents.

Magnesium detection, determination, and separation:detection of, colorimetrically (Petraschenj), A., 847.

detection of, by Schlagdenhaufen's reaction (HAMY), B., 217.

detection of, in plant tissues (EILERS), A., 1046.

detection of, in rocks, with diphenylearbamide (Feigl), A., 1161 detection and determination of, colorimetrically (KOLTHOFF), A., 639.

determination of (CERNATESCO and VASCAUTAN; TERESCHENKO and Necritone), A., 535.

determination of, colorimetrically (Kolthoff), A., 847.

determination of, gravimetrically (HAHN, VIEWEG, and MEYER),

determination of, volumetrically (HAHN and MEYER), A., 534; (HAHN and HARTLEB), A., 745.

determination of, in alloys with aluminium (Kroll), B., 489;

(MUGRAUER), B., 783. determination of, volumetrically, in magnesium chloride solutions (Rhodes), B., 364.

determination of, in physiological fluids (COHEN), A., 692.

determination of, in water (Schoch), В., 158.

determination of, volumetrically, in industrial water (Belcot), B., 10.

separation and determination of (BERG; HAHN and VIEWEG), A., 639.

Magnesium electrodes. Seo under Electrodes. Magnesylindole, reactions of aromatic aldehydes with (MINGOIA), A., 158.

Magnesylpyrrole, syntheses with (Oddo and Mingoia), A., 158, 1098.

action of, on diacetyl (NARYSCHKIN), A., 1089.

Magnet, permanent (PAUL ELEKTRIK), (P.), B., 195.

Magnetic cores, manufacture of (EHLERS and GENERAL ELECTRIC Co.), (P.), B., 339.

double refraction (Raman and Krishnan), A., 92; (Raman and Rao), A., 499.

in paramagnetic gases (Krishnan), A., 714. effects, thermodynamics of (GIAUQUE), A., 926.

materials, production of high permeability in (Bell Telephone Laboratories), (P.), B., 257.

separation of, from non-magnetic materials (INGOLFSRUD and Šoule), (P.), B., 683.

moments of molecules (KNAUER and STERN), A., 92

susceptibility, measurement of (Berkman and Zocher), A.,

in quantum mechanics (VAN VLECK), A., 609.

of binary alloys (Endo), A., 720; (Spencer and John), A., 1016.

of gases at low pressures (Vaidyanathan), A., 300. of vapours of organic liquids (VAIDYANATHAN), A., 1131.

Magnetisation coefficient of liquids (ARCAY and FALLOT), A., 1131. Magnetism and molecular structure (Stoner), A., 295.

in relation to the periodic system (LADENBURG), A., 493.

and colour of ions (Joos), A., 94.

Magnetite, properties of precipitated (WELO and BAUDISCH), A., 300.

magnetic permeability of (WAIT), A., 505. effect of heating in air on (Greulich), A., 123.

Magneto-chemical effect (Schukarev), A., 211.

Magneton electrons, quantum mechanics of (PAULI), A., 807.

Magnetostriction (McKeehan), B., 46. Mahaba seed. See Acrodiclidium Mahuba.

Maize, specific gravity and protein content of (SHUTT), A., 597. symbiosis of nitrogen-fixing bacteria and (TRUFFAUT and Bezssonoff), A., 280.

butyl alcohol and acctone from fermentation of (KILLEFFER), B., 152.

production of methyl alcohol and ammonium from fermentation of (Woodruff), B., 888.

nitrogenous constituents of pollen of (VINSON), A., 1227. utilisation of phosphoric acid in superphosphate by (Harper, Baker, Boatman, and Boatman), B., 663.

influence of sodium carbonate and of calcium chloride on acidity of sap of (Karasiewicz), A., 908.

deficiency of sodium in dict of (MILLER), A., 72.

green, volatile acids from fermentation of (Brahm, Andressen, and Prillwitz), A., 907.

Maire, flaked, composition of (WOODMAN and STEWART), B., 397. See also Zea mais.

Maize cobs, lignin from, and its chloro-derivative (PHILLIPS), A., 961.

Maize grain, influence of plant injury and root rot on (DUNCAN), A., 996.

Maize mashes, nitrogenous nutrients of yeast in the fermentation of (Delinicke and Kilp), B., 666.

Maize oil (WILBORN), B., 18.

phytosterols of (Anderson and Shriner), B., 48.

Mrize silage, net energy values of (Forbes, Braman, Kriss, Fries, JEFFRIES, SWIFT, FRENCH, and MANCHER), B., 712.

Maize starch. See under Starch.

Maize wax. See under Wax.

Makabuhay, bitter principle of (MARAÑON), A., 1175.

Malachite, solubility of, in ammonia, ammonium carbonate, and bicarbonate (Holland and Gilligan), B., 479.

Malachite green, photochemical reaction of (ARIGA), A., 529. action of light on (Burk), A., 947.

determination of, volumetrically, with titanous salts (WILKIN-

son and Tyler), B., 359. Malacosoma americana (tent caterpillar), changes during the life

cycle of (Rudolfs), A., 1218

Maleic acid, manufacture of (ZAIDAN HOJIN RIKAGAKU KEN-KYUJO and YABUTA), (P.), B., 268; (CRAVER and BARRETT Co.), (P.), B., 796.

second dissociation constant of (Duboux and Frommelt), A.,

photochemical reaction of bromine with (EGGERT, WACHHOLTZ, and SCHMIDT), A., 739.

catalytic hydrogenation of (Sabalitschka and Moser), A., 427. salts of (Coniclio), A., 1054.

ethyl ester, photochemical influence of bromine on (Wachholtz), A., 323.

crystallisation of derivatives of (VISEUR), A., 312.

Maleic acid, dihydroxy-. See $\Delta \beta$ -Butenc- $\alpha \delta$ -dicarboxylic acid, βy-dihydroxy-.

Maleic acids, effect of magnetic fields on structure of (Berezov-SKAYA), A., 398.

Malic acid, rotatory power of, as a function of the hydrogen-ion concentration (Vellinger), A., 205.

second dissociation constant of (DUBOUX and FROMMELT), A., 515.

pyrogenic reactions for (SANCHEZ), A., 543.

in muscle (NEEDHAM), A., 790.

bismuthyl compound of (Browning, Cohen, Gulbransen, PHILLIS, and SNODGRASS), A., 855.

ferrous salt, biochemical oxidation of (WOLFF and LOISELEUR). A., 174.

chloralide (Yorston), A., 1171.

Malic acids, chloro-, isomeric, and their salts and esters (KUHN and ZELL), A., 41.

Malonamides, substituted, action of sulphur dichloride on (NAIK and Jadhav), A., 444.

Malonchlorophenylamide, diehloro- (NAIK and SHAH), A., 758. Malondibenzylamide, dichloro- (NAIK and SHAH), A., 758.

Malondimethylphenylamide, chloro- (NAIK and SHAH), A., 758. Malondinaphthylamide dichlorides, mono- and di-chloro- (NAIK and SHAH), A., 758.

Malondiphenylamide, dichloro- (NAIK and SHAII), A., 758. Malondipropylamide, dichloro- (NAIK and SHAH), A., 758.

Malonditoluidide, and dichloro-, and its dichloride (NAIK and Shah), A., 758.

Malonic acid, second dissociation constant of (Duboux and From-MELT), A., 515.

esterification of, by glycerol and hydrochloric acid (KAILAN and Schroth), A., 26.

ethylene ester (TILITSCHEEV), A., 340.

Malonic acid, dihydroxy-, and its ethyl ester, bismuthyl compounds of (Browning, Cohen, Gulbransen, Phillis, and Šnodgrass), A., 855.

Malonic anhydride. See Carbon suboxide. Malondinitroanilide (NAIK and JADHAV), A., 444.

Malondinitro-β-naphthylamide (NAIK and JADHAV), A., 444.

Malondinitrotoluidides (NAIK and JADHAV), A., 444. Malon-p-toluidide, dichloro- (NAIK and SHAH), A., 758.

Malonyldiurethane, condensation of, with diazonium salts (WHITELEY and YAPP), A., 344.

Malt, nutritive value of (RUBNER and SCHITTENHELM), A., 374. fermentable sugars of (WRIGHT), B., 313.

Malt, relationship of ready-formed soluble carbohydrates in, to extract (DRYDEN), B., 760.

and malt extracts, vitamins-B and -C in (RANDOIN and Lecoq), A., 382.

yield of extracts from barley and (EHRICH), B., 264.

analysis of (Duchacek and Zila), B., 423; (Doemens), B.,

Malt extracts, evaporation plant for (WEIGHUER?), B., 589.

determination of time of saccharification and diastatic power of (SCHENK), B., 921.

Malt products for use in brewing and bread-making (FULLER), (P.), B., 264.

Maltase, yeast (Isajev), B., 89.

extraction of (Krieble, Skau, and Lovering), A., 902. Maltobionic acid, lactone formation of (LEVENE and SOBOTKA),

bismuthyl compound of (Browning, Cohen, Gulbransen,

PHILLIS, and SNODGRASS), A., 855. Maltose, constitution of (HAWORTH and PEAT), A., 135; (LEVENE

and Sobotka), A., 340.

and its oxime (Zemplén), A., 859.

synthesis of (Picter and Vogel), A., 752.

action of blood on (HYND and MACFARLANE), A., 483.

Malvone, and its derivatives (KARRER), A., 1197. Mandarin oil, Italian (ALBRICCI), B., 458.

Mandelylpropylamide (Passerini), A., 149.

Manganese, history and properties of (Hadfield), B., 486. pure, preparation of (GAYLER), B., 444.

spectrum of (GIBBS and WHITE), A., 177; (PIÑA DE RUBIES and Dorronsoro), A., 802.

absorption spectrum of vapour of (McLennan, Cohen, and LIGGETT), A., 396.

are spectrum of (Piña de Rubies and Dorronsoro), A., 998. absorption in under-water spark spectrum of (Sмітн and Muškat), A., 607.

atomic magnetisation of (COLLET), A., 11. solubility of, in mercury (TAMMANN and HINNÜBER), A., 304.

corrosive action of water on (Lün 110), B., 462.

content of, in animal and plant materials (LINDOW and PETERson), A., 1214.

with aluminium and copper (Krings and Ostmann), A., 830. crystal structure of (Heusler), A., 502.

with carbon and iron, low-carbon (HADFIELD), B., 446; (Nilson), (P.), B., 942.

thermal changes in (HADFIELD), B., 558. with copper and zinc (Heusler), A., 313.

with zine (Ackermann), A., 627.

Manganese compounds, tervalent (MEYER and SCHRAMM), A., 33. deficiency of, in soils and fertilisers (SCHREINER and DAWSON), B., 343. removal of, from water (v. Wolzogen Kühr), B., 717.

Manganese salts, action of permanganates with (DRUCE), A., 332,

reaction of sodium hypochlorite with, in presence of other salts (DIXON and WHITE), A., 843.

Manganese antimonides and telluride, crystal structures of (Oftedal), A., 924.

arsenate, manufacture of (GRASSELLI CHEMICAL Co. and TANNER), (P.), B., 388.

perchlorate, and its compound with pyridine (WEINLAND, Effinger, and Beck), A., 673.

dichromate (Husain and Partington), A., 123. fluoborates (WILKE-DÖRFURT and BALZ), A., 120.

molybdates (ZAMBONINI and CAGLIOTI), A., 1044.

dioxide, adsorption of electrolytes by (Charravarti and Dhar), A., 821.

adsorption by, in salt solutions (Geloso), A., 407. colloidal, preparation of (STEOPOE), A., 108.

hydrated, adsorption of metallic ions by (MEHROTRA and SEN), A., 498.

solid, reactivity of (DE CARLI), A., 327.

oxides, precipitation of (IPATIEV and KISSELEV), A., 739. oxidation of dextrose by (INGERSOLL), A., 528.

pyrophosphate, magnetic properties of (Foex and Bruner),

sulphate, equilibria of, with water and ammonium and potassium sulphates (CAVEN and JOHNSTON), A., 1142. calcium sulphate, effect of X-rays on thermoluminescence of

(Wick and Slattery), A., 397.

sulphide, action of high temperatures on (Picon), A., 220.

```
Manganese :-
```

Manganous chloride, compound of, with nitrosyl chloride (GALL and MENGDEHL), A., 220.

action of, on permanganates (DRUCE), A., 433.

fluosilicate, crystal structure of (Hassel and Salvesen), A., 1014.

hydroxide, adsorption of, by aluminium oxide in ammoniacal solution (PARISELLE and LAUDE), A., 636.

oxide and selenide (Вкосн), A., 814.

Permanganates, deoxidation of, in alkaline solution (MAXIMOV), A., 218.

reaction of arsenites with, in sulphuric acid solutions (ORYNG), A., 742.

action of manganese salts with (DRUCE), A., 332, 433. alkali, reduction of, in alkaline solution (MAXIMOV), A., 742. standardisation of, with electrolytic iron (Moser and SCHÖNINGER), A., 332.

Manganese determination and separation :-determination of (DRUCE), A., 332

determination of, as permanganate (LANG), A., 126.

determination of, as pyrophosphate (BALAREV and DESEV), A.,

determination of, by the potassium chlorate method (MARQUEY-ROL and TOQUET), A., 1162.

determination of, in aluminium alloys (MUGRAUER), B., 783.

determination of, in iron alloys (DE Luisi), B., 191.

determination of, in iron and steel (MARQUEYROL and TOQUET), B., 751.

determination of, in steel (QUARTAROLI), B., 910.

determination of, in cobalt steel (HALLBAUER and KRÜGER), B.,

determination of, in soils (QUARTAROLI), B., 918.

separation of, from alloys (Wenger and Rogovine), A., 333. a-Manganese, crystal structure of (Bradley and Thewlis), A.,

Mangels, changes in composition of, during storage (DREW and PYNE), B., 376.

Mangroves from Indo-China (DE BALSAC and DEFORGE), B., 231. Manioc root, composition of (EKHARD), B., 397.

Mannans (HESS and LUDTKE), A., 960.

Mannitol, synthesis of (PACE), A., 539.

d-Mannitol trisulphite (Majima and Simanuki), A., 337.

Mannonic acid, bismuthyl compound of (Browning, Cohen, GULBRANSEN, PHILLIS, and SNODGRASS), A., 855.

Mannose dissopropylidene ether, derivatives of (FREUDENBERG and Wolf), A., 230.

a- and β -Mannose pentageetates, optical rotation of (Levene and Bencowitz), A., 960.

Manometer, absolute, for low pressures (RODEBUSH and COONS),

Manures, manufacture of (RIPPERT), (P.), B., 56; (BOEHRINGER & SOEHNE), (P.), B., 663.

dissolved waste hide as (JORET and RADET), B., 373.

from organic refuse (BAUMGARTEN-CRUSIUS), (P.), B., 344. compost (MÜHLBACHL), (P.), B., 310.

farmyard, transformation of, in soils and their utilisation (König), B., 198.

action of hydrogen peroxide on (Jones), B., 232. stable, and "super," biological investigation of (Ruschmann), B., 395.

See also Fertilisers.

Manuring in drills (BURK), B., 453.

Maple, manufacture of flavouring product from (SALE, WILSON,

and United States), (P.), B., 921.

Maple wood, pulp from (Cable, McKee, and Simmons), B., 327. Marble, artificial, manufacture of (BIA and DE BIELIZE), (P.), B., 790.

Margarins (Thomson), A., 540. Margarine, production of (Jirotka), (P.), B., 763.

production of highly-oxidised oil for manufacture of (HANSEN), (P.), B., 340.

sorting of samples of (Manley), B., 226.

fat, effect of addition of bromino to (SCHNECK), B., 850. determination of butter fat in (ELSDON and SMITH), B., 227. γ-Margaro-aβ-dibromohydrin (Thomson), A., 540.

β-Margaro-αγ-dichlorohydrin (Thomson), A., 540. Margarodipalmitins (Thomson), A., 540.

Margarodistearins (Thomson), A., 540.

Margarylisopropylideneglycerol (Thomson), A., 540.

Marine animal oils. See Oils, animal marine.

Marjoram, influence of reaction of soil on formation and composition of (DEEL and DEEL), B., 710.

Marmalade, determination of vegetable constituents of (Reide-MEISTER), B., 456.

Marri kino, preparation of tannin extract from (Austral. Council FOR Sci. & IND. Res.), B., 853.

Marzipan from apricot kernels, determination of starch in, polarimetrically (Gronover and Wonnlich), B., 614.

Mass, ratio of charge to (Wolf), A., 913.

Massage, physiological effect of (Cajori, Crouter, and Pemberтом), А., 375.

Mastic, flocculation of suspensions of (Boutaric), A., 202. sols, preparation of (RABINOVITSCH and BURSTEIN), A., 413. precipitation of, by proteins (HOTTA), A., 511.

Masurium. See Eka-manganese.

Matches, compositions for striking (Robinson), (P.), B., 269, 798*. waterproofing of (Forsyth), (P.), B., 204.

Materials, drying of (ALEXANDER), (P.), B., 896.

heat-treatment of (DWIGHT & LLOYD METALLURGICAL Co. and HYDE), (P.), B., 897.

air-borne, classification of (HARDINGE Co. and HARDINGE), (P.), B., 208.

granular, having different specific gravities, separation of (VELTEN), (P.), B., 928.

combustible, cooling of (DEMAG A.-G.), (P.), B., 866.

liquid and solid, heat treatment of, by means of hot liquids (HAMMOND and SHACKLETON), (P.), B., 928.

lump and granular, apparatus for deposition and collection of (Doblhoff), (P.), B., 928.

molten, manufacture of pellets from (Poindexter, Morgan, and California Cyanide Co.), (P.), B., 928.

powdered, apparatus for heating of (TRAUTMANN), (P.), B., 831. Matter, theory of states of (SCHUSTER), A., 103, 818; (STACHORski), A., š18.

as a discrete element (Beck), A., 807.

impenetrability of, in relation to Pauli's exclusion principle (EHRENFEST), A., 183, 495.

May-bugs. See Melolontha. Meal, treatment of (N.V. INTERNAT. OXYGENIUM MIJ. " NOVA-

DEL "), (P.), B., 668; (VAN LOON), (P.), B., 732*.

Measles, preparation of vaccine and scrum for (Deckwitz and GREUTERT & CIE.), (P.), B., 173.

Measurements, accuracy obtained by repetition of (KROGH), A.,

Meat, curing of (Alsberg and Heller & Co.), (P.), B., 763. sodium nitrite for (KERR, MARSH, SCHROEDER, and BOYER), B., 25.

pickling of, with saltpetre from Chili saltpetre and from synthetic sodium nitrate (RIESS and MEYER), B., 712.

influence of sodium phosphato on gaseous exchange after ingestion of (ABELIN and KOBORI), A., 276.

nutritive value of connective tissue of (MITCHELL, BEADLES, and KRUGER), A., 792.

interpretation of bromatological analyses of (Beythen, Hart-WICH, and KLIMMER), B., 762.

minced, determination of benzoic acid in (Waltzinger), B., 539. determination of connective tissue in (MITCHELL, ZIMMERMAN, and Hamilton), (P.), B., 264.

determination of nitrate- and nitrite-nitrogen in (NOETZEL), B., 539.

Meat juice, manufacture of (ÉTABL. BYLA), (P.), B., 236. preparations of (PARET), (P.), B., 457.

Meat products, nutritive value of proteins in various (HOAGLAND and SNIDER), B., 121.

determination of starch in (JAHN), B., 614.

Mechanics, quantum, new derivation of (JORDAN), A., 916. statistical, in application to physical chemistry (Tolman), A.,

wave (DE BROGLIE), A., 807.

limiting value problem of (Bechert), A., 916.

Meconine, and 3-nitro-, action of hydrazine on (Tasman), A., 876. Medicaments, manufacture of emulsions of (Soc. Chem. Ind. in

Basle), (P.), B., 173*. manufacture of, containing bismuth (Chem.-Pharm. A.-G. BAD-HOMBURG and LIEBRECHT), (P.), B., 60.

insoluble or sparingly soluble, preparation of solutions of (Soc. Chem. Ind. in Basle), (P.), B., 574*. Medicinals, synthetic (KAUFMANN), A., 663; (KAUFMANN and

HAAS), A., 1083. mixed, preparation of (FULLER), (P.), B., 734.

Medicine, chemistry in (CARR), B., 668. Meleagris gallopavo (turkey), chemistry of fat of (Herburn and

Katz), B., 705.

Meleritose (LEITCH), A., 450.

constitution of (ZEMPLÉN), A., 44; (BRIDEL and AAGAARD). A., 859.

Melibiose, constitution of (Helferich and Rauch), A., 44; (Levene and Wintersteiner), A., 1171. and its oxime (Zemplén), A., 545.

relationship of, to raffinose (Charlton, Haworth, and Hickinвоттом), А., 859.

synthetic, and its octa-acetate and derivatives (Picter and Vogel), A., 450.

Melolontha hippocastani and melolontha (mav-bug), 3:4-dihydroxyphenylalanine from (Schmalfuss and Müller), A., 586.

Melting of substances in jacketed vessels (Legeler), (P.), B.,

apparatus for (Hadamovsky), (P.), B., 832.

Melting point, determination of (BERL and KULLMANN), A., 437; (LYNN), A., 1048.

calculation of invariants in (FISCHER), A., 615.

apparatus for (Musohter), A., 38; (TER MEULEN), A., 128; (Speter), A., 641.

for high temperatures (Anschütz), A., 850.

relation between critical temperature, boiling point, and (VAN AUBEL), A., 101.

of homologous series (GARNER and RUSHBROOKE), A., 718.

Melting pot, electric (Schuster), (P.), B., 370.

Membranes, production of (KOBER), (P.), B., 138.

permeability of (MICHAELIS, ELLSWORTH, and WEECH;

MICHAELIS, WEECH, and YAMATORI), A., 727. selective (Choucroun), A., 931.

animal, hydrolysis of glucosides by (Loiseleur), A., 935.

collodion (BJERRUM and MANEGOLD), A., 727, 1022. permeability of (Liesegang), A., 19.

diffusion of ions across (MICHAELIS and PERLZWEIG), A., 514. effect of hydrogen and hydroxyl ions on diffusion of water through (Jurišić), A., 825.

anomalous osmosis with (Jurišić), A., 200.

containing lecithin, diffusion of water into (Abramson and GRAY), A., 825.

dried, transfer experiments with (MICHAELIS, WEEOH, and YAMATORI), A., 727.

semi-permeable, potentials with (KAMEYAMA), A., 316.

equilibria in systems with (Schreinemakers), A., 22, 418, 731, 1031, 1142.

Memorial lecture, Kamerlingh Onnes (COHEN), A., 614.

Menhaden fish meal, as diet for calcification (MAYNARD and MILLER), A., 374.

Menhaden oil, unsaturated acids of (McGregor and Beal), B., 145.

Menstruation, chemistry of (KLAUS), A., 694.

Mentha (GORDON), B., 892.

Mentha aquatica and sylvestris, essential oils from (Romeo and GIUFFRÈ), B., 316.

Mentha canadensis, oil from (Braun), B., 378.

Mentha piperita, essential oil of (GORDON), B., 892. y-methyl-n-butyl alcohol in (Gordon), B., 346, 571.

Mentha pulegium, essential oil of (Romeo and Giuffre), B., 316. Menthanecarboxylic acid, hydroxy-, derivatives of (Passerini),

Menthenecarboxylamide (Houben and Pfankuch), A., 364. Menthimine, and its action with hydrocyanic acid (Houben and PFANKUCH), A., 364.

Menthol, manufacture of (Schöllkopf), (P.), B., 380*.

dehydrogenation of (Cusmano), A., 155.

synthetic Australian (Penfold), B., 457.

i-Menthol, manufacture of (Rheinische Kampfer-Fabr. and Schöllkopf), (P.), B., 733.

l-Menthol, catalytic action of reduced copper on (HIRAIDZUMI), A., 946.

isoMenthols, and their salts and phenylurethane (READ, ROBERTson, and Cook), A., 772.

Menthol series (McCluskey and Sher), A., 363.

Menthone, enol form of (Gordon), A., 1195. cyanohydrin (Houben and Pfankuch), А., 364.

l-Menthone, condensation of, with benzaldehyde (Gordon), A., 1195.

isoMenthones, and their derivatives (READ, ROBERTSON, and Cook), A., 772.

Menthone series (READ, ROBERTSON, and COOK), A., 772; (READ and Robertson), A., 1080.

d-neoisoMenthylamine, and its derivatives (READ and ROBERTson), A., 1081.

l-neoisoMenthylamine, salicylidene derivative (READ, ROBERTSON, and Cook), A., 773.

Menthylamine, cyano-, hydrochloride (Houben and Pfankuch). A., 364.

Mercaptans, condensation of, with phthalic anhydride and phthalyl chlorido (CHAKRAVARTI and SAHA), A., 970.

sweetening of, by means of metallic sulphides (Morrell and FARAGHER), B., 803.

aliphatic, infra-red absorption spectra of (Bell), A., 1052, aromatic, direct substitution in (VAN Hove), A., 555, 1065. of the naphthalene series (I. G. FARBENIND.), (P.), B., 275.

Mercaptides, co-ordinated (DRUMMOND and GIBSON), A., 156. Mereaptobenzthiazole, manufacture of (KELLY and GOODYEAR Tire & Rubber Co.), (P.), B., 572.

Mercaptols, thermal decomposition of (SCHÖNBERG and SCHÜTZ). A., 667.

Mereaptosulphonic acids, heavy metal salts of (Chem. Fabrik vorm. Sohering), (P.), B., 348, 797*.

Mercapturic acids, toxic action of (Callow and Hele), A., 695. Mercerisation, apparatus for (MASCHINENFABR. BENNINGER), (P.), B., 72.

recovery of sodium hydroxide from liquor of (DEUTS. ZELL-STOFF-TEXTILWERKE and LEUCHS), (P.), B., 812.

of textiles containing viscose silk (SILVER SPRINGS BLEACHING & DYEING CO., MASON, and HALL), (P.), B., 776. of vegetable fibres (I. G. FARBENIND.), (P.), B., 361.

of vegetable fibrous materials (GMINDER), (P.), B., 699.

Mercuration of aromatic compounds (Coffey), A., 165; (Mameli), A., 268.

Mercurialis, constituents of seeds of species of (Gillor), B., 494. Mercurochrome, action of ultra-violet and polarised light on (Macht and Hill), B., 346.

Mercury, production of (GLAESER), (P.), B., 819. vapour, production of, pure, for inhalation (Spuhl), (P.), B., 349.

from coal tar (Aston), A., 392.

still for purification of (BOOTH and JONES), B., 193.

metallography of, and its amalgams (ROSENHAIN and MURPHY). A., 9.

grouping of atoms of radioactive elements in (Chamié), A., 605. separation of isotopes of (King), A., 709. spectrum of (Nakamura), A., 2; (Volkringer), A., 2, 178;

(SAWYER and BEESE), A., 82; (NAGAOKA and MISHIMA), A., 179.

forbidden line in (RAYLEIGH), A., 911.

intense rays in (PÉRARD), A., 390.

intensity of lines in (ESKELAND; VEGARD), A., 179: (Valasek), A., 706.

Zeeman effect in (MAONAIR), A., 804. effect of helium on (NASII), A., 83.

absorption spectrum of (RAYLEIGH), A., 607; (MOHLER and Moore), A., 917.

absorption and emission spectra of (Rayleigh), A., 1122. abnormal are spectrum of (LOYARTHE and WILLIAMS), A., 602. continuous spectrum of (RAYLEIGH), A., 82, 496; (DUFFIEUX),

continuous and band spectra of (Volkringer), A., 810. vapour, band spectrum of (RAYLEIGH), A., 291.

spectra of electrodeless discharge in (Balasse), A., 605. high-frequency spectrum of (Clarke), A., 1119.

instantaneous spectrum of (NAGAOKA, NUKIYAMA, and FUTA-

GAMI), A., 911.

line spectra of isotopes of (JENKINS), A., 179.

resonance spectrum of (ORTHMANN and PRINGSHEIM), A., 602. ultra-violet spark spectra of (DEJARDIN), A., 83.

ionised, spectrum of, in the electrodeless discharge (Robertson and FINDLAY), A., 803.

polarisation in spectrum of vapour of (ELDRIDGE and OLSON), A., 84. polarisation of lines of, from a discharge tube (Skinner),

A., 285. incomplete polarisation of resonance radiation of (MACNAIR and

ELLETT), A., 911. quenching and depolarisation of resonance radiation of (FOOTE).

molecules, intensity of beams from (Johnson), A., 607.

Mercury vapour, absorption of resonance radiation in (Hughes and Mercuric iodide, influence of iodine on conductivity of, in THOMAS), A., 1118. diffusion of resonance radiation of (ZEMANSKY), A., 491. alcoholic and acetone solution (THÖNNESSEN), A., 420. polarisation of resonance radiation of (v. Keussler), A., oxide, crystal structure of (Zachariasen), A., 1014. detection of chlorides in (Ferrey), B., 600. photo-electric threshold of (Dunn), A., 603. selenide, crystal structure of (Zachariasen), A., 400. sulphide, disperse, optical properties of (Voronkov and electrocapillary curve of (BENNEWITZ and DELIJANNIS), A., 316. Pokrovski), A., 1138. Mercurous chloride (calomel), crystal structure of (Huggins and voltage-intensity curves of (WHITE), A., 84; (WHITE and WEBB), A., 1001. Magill), A., 1129. long wave-length limit of (HALES), A., 1118. compound of, with nitrosyl chloride (GALL and MENGDEHL), A., 220. vapour, excited, luminescence of (Bricout), A., 1125. reaction of silver iodide with (BERGMAN and HENKE), band fluorescence of (HOUTERMANS), A., 292. A., 112. superheated, fluorescence of (Niewodniczański), A., 91. after-glow in (ASTERBLUM), A., 285, 707. electrodes. See under Electrodes. Mercury organic compounds, colloidal (Rossi and Bocchi), activated, photosensitised decompositions by (Dickinson and MITCHELL; TAYLOR and BATES), A., 217. A., 165. photo-electric ionisation of (HOUTERMANS), A., 391. manufacture of compositions containing (Du Pont de Nemours impact ionisation of (Jones), A., 708. & Co.), (P.), B., 734. Mercury compounds with cyanogen, aromatic (Klages), (P.), ionisation of, at low pressures (Moens), A., 181. potential gradient for, in the positive column (GÜNTHER-B., 398. alkyl halides, fungicidal and germicidal action of (Klages), Schulze), A., 709. ionisation potential of (LAWRENCE), A., 1000. B., 732. resonance and ionisation potentials in (Jarvis), A., 1119. aryls and alkaryls (KHARASCH and MARKER), A., 165. di-o-chloro-p-aminophenyl (Veccutotti), A., 1098. critical potentials of (Messenger), A., 85. tetraphenyldithienyl (FROMM, FANTL, and LEIBSOHN), oxidation-reduction potential of (CARTER and ROBINSON), A., 209. A., 1198. influence of alkali or alkaline-earth metals on cathode potential Mercuriacetic acid, furan and pyrrole salts (CIUSA and GRILLO), fall of (GÜNTHER-SCHULZE), A., 24. A., 685 ultra-ionisation potentials of (LAWRENCE), A., 805. N-methylthiodiphenylamine salts (Finzi), A., 685. magnetic disturbance of superconductivity of (DE HAAS and Mercuri-amides, use of, in analysis (KRANJČEVIĆ and RUKONIĆ), Sizoo), A., 11. internal pressure of (RICHARDS), A., 103. Mercuri-3-chloroaniline, chloro-, and its acetyl derivative, and liquid, vapour pressure of (MENZIES), A., 1131. hydroxy- (Vecchiotti), A., 1098. entropy of (RODEBUSH), A., 718. Mercuridiethyl ether, β -hydroxy- β' -iodo- (Schoeller), (P.), adsorption of gases on (OLIPHANT and BURDON), A., 1021. B., 459. influence of temperature on (ELLERBROEK), A., 301. Mercuri-m-iodoaniline, hydroxy-, and its acetyl derivative, vapour, adsorption of, by charcoal (Coolings), A., 928. and iodo- (Vecchiotti), A., 1098. Mercuri-3-nitro-o-cresol, 4-hydroxy-, sodium salt and acetyl derivative (RAIZISS and ABBOTT LABORATORIES), (P.), trap for (FINCH), A., 641. surface tension of, and spreading of water on its surface (BURDON and OLIPHANT), A., 618. solubility of metals in (TAMMANN and KOLLMANN), A., 303; Mercurinitrotoluenes, chloro- (Coffey), A., 165. Mercurisalicylic acid, p-thiocyano-, and its potassium salt (TAMMANN and HINNÜBER), A., 304. colloidal (GUTHIER, KÖHLER, and SCHIEBER), A., 108. (RUPP and GERSCH), A., 685. explosion of ammonia vapour and (VAN BRUNT), A., 439. Mercurisulphosalicylic acid. salts, physico-chemical properties of conversion of, into gold (Bernhardt), A., 5; (Miethe and Stammreich), A., 218; (Duime and Lotz), A., 530; (Sheldon and Estey), A., 1004. poisoning by. See under Poisoning. (Berkmann and Zocher), A., 933. Mercury detection, determination, and separation :detection of (ORMONT), A., 325. vapour, determination of (Nordlander), B., 415. use of, and its yellow oxide as standards in volumetric analysis determination of, in presence of other metals (ZINTL and (KOLTHOFF and VAN BERK), A., 845. RIENÄCKER), A., 536. Mercury alloys (amalgams), dilute, potentials of (TAMMANN and free, determination of, in commercial products (Dunnicliff Hinnüber), A., 304. and Lal), B., 617. liquid, use of, in volumetric analysis (Someya), A., 332, 333, determination of, in mercury salicylate (MURRAY), B., 155; 746, 848; (HAKOMORI), A., 1160. (Griffith and Ramanuskas), B., 457. with aluminium, use of, for reduction of benzenesulphonyl separation of copper and (KRAUSS), A., 436. chlorides (GEBAUER-FÜLNEGE), A., 655. Mercury cathodes. See under Cathodes. with sodium, reduction of ruthenium trichloride with (REMY Mercury electrodes. See under Electrodes. Mercury ores, smelting of (OESTERR. BAMAG-BÜTTNER-WERKE and Wagner), A., 328. Mercury salts, ionisation of aqueous solutions of (Brodski and and JAHN), (P.), B., 705. CHERCHEVER), A., 421. Mesenteric ganglion, anticoagulant extracted from (Doyon and reduction of, with acetic anhydride (Menke), A., 131. VIAL), A., 168. Mercury telluride, crystal structure of (ZACHARIASEN), A., 96. Mesityl oxide, and its derivatives (Doeuvre), A., 134. Mercuric chloride (corrosive sublimate), ebullioscopic study of Mesitylenedisulphonic acid, amide and chloride of (STEINKOPF), alkali chloride complexes with (Bourson and Rouyer), A., 964. A., 729. Mesitylenesulphonyl fluoride, and nitro- (STEINKOPF), A., 964. interaction of sodium hydrogen carbonate and (P. and S. Mesobilirubinogen (FISCHER and LINDNER), A., 261. NEOGI), A., 214. Mesoplodon bidens, oil from (André and Canal), A., 168. complexes of, with potassium bromide and sodium acetate Mesoporphyrin (FISCHER and LINDNER), A., 261. (Bourion and Rouver), A., 841. isoMesoporphyrin, formation of (Fischer, Halbig, and Walach), vapour, reaction of potassium vapour with (KONDRATEEV), A., 469. A., 1124. Mesothorium-1, separation of, from radium (Kendall, Jette, use of, for wood impregnation (Moll), B., 878. and WEST), A., 86. cæsium chloride, crystal structure of (NATTA), A., 1128. Mesothorium-2, slow a-particles from (Yovanovitch and Proca), halides, of tical excitation of vapours of (Terenin), A., 92. A., 4. critical potentials of vapours of (PAVLOV and LEIPUNSKY), Mesoxalyldiurethane, derivatives of (Whiteley and Yapp), A., 91. A., 344. co'our changes of vapours of (LANGWORTHY), A., 185.

iodide, crystal structure of (Huggins and Magill), A., 1129.

polymorphism of (Kohlschütter), A., 815.

Mesoxanthoporphinogen dimethyl ester (FISCHER and TRIEBS),

Mesquite gum, composition of (Anderson and Sands), B., 152.

Metabolism, changes of, with conditions (Pincussen), A., 276. influence of hydrazine and its derivatives on (Izume and Lewis), A., 73. effect of hydrolysis products of proteins on (RAPPORT and BEARD), A., 694. of the brain (B. E. and E. G. HOLMES), A., 72, 479. human, with enemata of alcohol, dextrose, and lævulose (CARPENTER), A., 71. of women (OKEY and BOYDEN), A., 480. of aromatic acids (MIRIAM, WOLF, and SHERWIN), A., 275, 375. basal, determination of, from respiratory exchange (Pickworth), A., 588 calcium (Stewart and Percival), A., 486. in diabetes (Kylin), A., 1106. and phosphorus (Telfer), A., 896. on deficient diets (Schultzer), A., 1115. of carbamido-acids and hydantoins (GAEBLER and KELTCH), A., 72. carbohydrate (Kermack, Lambie, and Slater), A., 282; (LAMBIE and REDHEAD), A., 693. effect of ultra-violet light on (Burge and Wickwire), A., 594. influence of alkali phosphates on (Kobori), A., 274. action of mineral waters on (Kauffmann-Cosla, and R. and W. ZÖRKENDÖRFER), A., 479. effect of pituitrin on (HINES, LEESE, and BOYD), A., 796. in adrenalectomy (C. F. and G. T. Cori), A., 1106. intermediary (Wierzuchowski), A., 790; (Lambie), A., 989. of muscle, rôle of phosphates in (BEATTIE and MILROY), A., 72. cholesterol, relation of lipin excretion to (Sperry), A., 273. effect of posterior pituitary extracts on (MOEIILIG and AINSLEE), A., 702. effect of blocking the reticulo-endothelial system on (GOEBEL and GNOINSKI), A., 791. of dogs, effect of extirpation of liver on (Enderlen, Thann-HAUSER, and JENKE), A., 274. citric acid (Woods), A., 374. of dihydroxyacetone (Rabinovitsch), A., 1217. fat (MANCKE), A., 275; (Löw and Preiler), A., 903. effect of irradiation on (Kultjugin), A., 898. influence of bile acids on (Ikoma), A., 791. in diabetes (Bloor, Gillette, and James), A., 1216. fat and lipin (LEITES), A., 695. of fats and sterols, relation between (Terroine, Bonnet, Kopp. and VECHOT), A., 898. lactacidogen, in diabetic muscle (LANGE), A., 170. of lactates in infants (Brandy), A., 1218. lactose (Corley), A., 897. nitrogen, action of iodides on (GRABFIELD, GRAY, FLOWER, and KNAPP), A., 1219. intermediary, rôle of lungs in (TSCHARNY), A., 1108. nuclein (THANNHAUSER and BLANCO), A., 268. oxalic acid, endocrine factors in (VIALE), A., 485. pentose (Youngburg), A., 908. protein, rôle of insulin in (JANNEY and SHAPIRO), A., 282. and purine, effect of bile acids on (KARASAWA), A., 899. purine (TRUSZKOWSKI), A., 1108; (CHRISTMAN and ECKSTEIN), A., 1218. intermediate (Engelhardt), A., 375. sugar, effect of optically active amino-acids on (Burge, Wick-WIRE, ESTES, and WILLIAMS), A., 990. sulphur (Sherwin, Shiple, and Rose), A., 792; (G. T. and H. B. Lewis), A., 792, 1108. of dogs (Callow and Hele; Coombs and Hele), A., 695; (Coombs), A., 696. uric acid, in animals (PRZYLECKI). A., 1108. Metachromasy, chemical nature of (Holmes), A., 281. Metals, extraction of, from ores (PACZ and GEN. ELECTRIC Co.), (P.), B., 195*. preparation of (Andrieux), A., 216. pure, converter for production of (Madorsky and Gathmys RES. CORP.), (P.), B., 970. manufacture of, in the electric furnace (CROESE), (P.), B., 302; (Gustafsson), (P.), B., 785. electrodeposition of (Hedges), A., 630; (Saxon), A., 840; (MADSEN and MADSENELL CORP.), (P.), B., 82*; (HABRIson), (P.), B., 705. cooling device for use in (PFANHAUSER), (P.), B., 754. and their structure (FOERSTER and FISCHER), B., 78. on to other metals (WALTER), (P.), B., 169.

purification of (VAN ARKEL), A., 325.

Metals, refining of (Tullis), (P.), B., 848*. apparatus for (UNGER and GEN. ELECTRIC Co.), (P.), B., electrolytic refining of (Colcord and U.S. Smelting, Refining, & MINING Co.; POLAND and AMER. SMELTING & REFINING Co.), (P.), B., 116. refining and separation of (HARRIS), (P.), B., 784. cleaning of (Mason and Western Electric Co.), (P.), B., 416. furnaces for melting (GREENWAY; TOOTH; Wüst), (P.), B., 115. high-frequency induction melting of (Campbell), B., 781. furnaces for heating or melting of (ZILLIACUS), (P.), B., 970. impure molten, treatment of (HARRIS), (P.), B., 224. annealing of (Sanford), (P.), B., 225; (Besta), (P.), B., 541; (Guibert), (P.), B., 912. apparatus for heat treatment of (SMITH, GARNETT, and HOLDEN), (P.), B., 224. clectrical heating of (CAMPBELL), (P.), B., 370. plasticity of (Shoji; Shoji and Mashiyama), B., 15*. influence of plastic deformation on thermal expansion of (Jubitz), A., 613. moulding and casting of (Merle), (P.), B., 302. molten, casting of (Kadow), (P.), B., 47; (Kadow and Vacuum Casting Co.), (P.), B., 81*. high-melting, casting of (DALE), (P.), B., 819. hardening of (ARCHER), B., 113. indentation hardness of (HONDA and TAKAHASHI), B., 489. hardness of, in relation to their cold-working (O'NEILL), B., 490. in relation to periodicity (KORFF), A., 613. table of (MALLOCK), A., 300. apparatus for determination of (Schopper), (P.), B., 848. effect of temperature on formation of granules in (Botschwar), A., 101. are welding of (British Thomson-Houston Co.; Langmuir and Alexander), (P.), B., 449. imparting a close texture to (JAROTZKY), (P.), B., 659. atomic properties characteristic of (Herzfeld), A., 613. electron lattice theory of (WARREN), A., 1012. optical constants of (PFESTORF), A., 99. refractive index of, for X-rays (EDWARDS), A., 921. are spectra of, in chlorine (MIYANISHI), A., 998. solid and liquid, thermionic emission from (Goetz), A., 492, hot-cathode vacuum discharges in vapours of (Wolf), A., 909. electrical conductivity of (Procopiu), A., 11; (Nazorov), A., 817. at low temperatures (McLennan and Niven), A., 925. motion of electrons in conduction by (Malinovski), A., 504. superconducting, properties of films of (Sizoo and Onnes), A., 716. electrical resistance of (BURGARTH), A., 94. relative resistivity of, at liquid helium temperatures (Tuyn and Onnes), A., 192. molten, electrical resistance of (Matugama), A., 820. damping properties of, in torsional vibration (Feussner and RAMB), B., 336. electrokinetic potential of (COEHN and SCHAFMEISTER), A., 420. as electrodes in electrolysis of water (Rollet), A., 946. anodic behaviour of, in non-aqueous solution (Sporgi), A., 630. thermal conductivity of (EUCKEN and DITTRICH; GREGORY and Archer), A., 506. thermo-electric power of aggregates of (Masing), B., 113. thermo-electric effects with thin films of (Terada, Tanaka, and Kusaba), A., 817. latent heats of fusion and specific heats of (UMINO), A., 193. determination of melting point of (MANTELET), (P.), B., 225. liquid, heat capacities of (DIXON and RODEBUSH), A., 614. surface tension of (BIRCUMSHAW), A., 719. molten, surface tension of (DRATH and SAUERWALD), A., 723; (LIBMAN), A., 929; (MATUYAMA), A., 1019. internal friction of (SAUERWALD and TÖPLER), A., 14; (BIENIAS and SAUERWALD), A., 508. equilibrium of, with salts (Tubandt and Münzing), A., 418. determination of gas content of (WÜSTER and PIVOVARSKY), B., 681. fluidity of (Losana), A., 1133. viscosity of (Subrahmaniam) A., 404. effect of cold rolling on rate of evaporation of (SAUERWALD.

PATALONG, and RATKE), A., 302.

Metals, condensation of vapour of (New Jersey Zino Co., Mahler, HANDWERK, and BUNCE), (P.), B., 114.

solubility of, in mercury (TAMMANN and KOLLMANN), A., 303; (Tammann and Hinnüber), A., 304.

diffusion of (DUNN), B., 369.

diffusion of hydrogen through (Borelius and Lindblom), A., 195; (Borelius), A., 727.

occlusion of gases by (Iwasé), A., 15.

equilibria in ternary systems of (Morgen), A., 206. Röntgen-ray structure of (Becker), A., 501.

tervalent, crystal structure of (NATTA), A., 611.

structure and crystallisation of (PORTEVIN), A., 923.

crystallisation of (Desch), A., 191.

determination of crystallite orientation of (Tammann and MEYER), A., 399.

conductivity of crystals of (GRÜNEISEN and GOENS), A., 1017. thermo-electric effect in crystals of (Bringman), A., 402.

tendency of crystals of, to flow (SCHMID), B., 528.

single crystals of (Hausser and Scholz), A., 613; (Ver. Glühlamen & Elektricitäts-A.-G.), (P.), B., 195.

crystal orientation in (Sницоzu), А., 1012.

etch flames in (Potter and Sucksmith), A., 716. formation of twin crystals of (McKeenan), A., 299; (Preston),

A., 504. recrystallisation in (VAN ARKEL and KOETS), A., 401; (KARNOP

and SACHS), A., 504. recrystallisation temperature of (TAMMANN and SALGE), B., 490.

transmutation of (Paterno), A., 290. passivity of (Eggert), A., 423; (Evans), A., 619; (Meunier),

A., 942; (GRUBE), A., 1034. and their activation (REICHINSTEIN and V. REYTER), A., 833. passive, current-potential curves of (Müller), A., 735.

corrosion of (PALMAER), B., 528. electrochemistry of (THIEL and ECKELL), A., 1034. influence of boundary films on (CALLENDAR), B., 724.

intercrystalline (RAWDON), B., 447.

submerged (Fraser, Ackerman, and Sands), B., 414. improving corrosion-resistance of surfaces of, by diffusion (GRUBE), B., 941.

corrosion-fatigue of, as affected by chemical composition, heat

treatment, and cold working (McADAM), B., 679.

degasification of, and its relation to corrosion (Dorsey), B., 941.

prevention of corrosion of (SMITH), (P.), B., 606.

protection of (DUNLOP RUBBER Co., LAKEMAN, and MACCABE), (P.), B., 970.

against action of molten metals (SIEMENS & HALSKE and Masing), (P.), B., 491, 593.

coating of (Daniels and Zimmerman), (P.), B., 169.

by dipping (American Machine & Foundry Co.), (P.), B., 819.

with metals (AMER. MACHINE & FOUNDRY Co.), (P.), B., 848. with aluminium, magnesium, or their alloys (HOPFELT and Nolden), (P.), B., 912.

coating composition for (Danielson), (P.), B., 630.

protective coatings on (FINK, PAN, and CHEMICAL TREATMENT Co.), (P.), B., 115.

production of refractory coatings on (Pétrole Synthetique

Soc. Anon. and Folliet), (P.), B., 970. removal of hydrogen from surface of, before electrolytic coating

(VAN DER HOORN), (P.), B., 256. coating articles with (Schoop), (P.), B., 221.

spraying of, on glass (Soc. Nouvelle de Métallisation),

(P.), B., 411. on materials (Cozens and Metallisation, Ltd.), (P.), B., 970. apparatus for production of oxyaectylene mixtures for use in

(Soc. Ital. Metallizzazione), (P.), B., 848. precipitation of, on incandescent bodies (N.V. Phillips'

GLOEILAMPENFABR.), (P.), B., 195. pickling of (Gravell), (P.), B., 785, 913*.

practical application of inhibitors in (Speller and Chappell), B., 704.
formation and properties of coherent films on (Kohlschütter

and JAKOBER), A., 1015.

coloured oxidation films on (Evans), A., 1022.

readily oxidisable, metallurgy of (Michel), (P.), B., 847. oxidation of, with gases (Carveth and Roessler & Hasslacher Chemical Co.), (P.), B., 848.

protection of, against oxidation at high temperatures (British THOMSON-HOUSTON Co. and KELLEY), (P.), B., 582.

Metals, treatment of, prior to electroplating (Soc. METALLURGIQUE L'ARIÈGE), (P.), B., 606.

aggregation of incoherent deposits of (Концениттея and Good), A., 1015.

action of acids on (GAUS, ELICABE, and WEINSTOCK), A., 1149. action of salts on heating with (Peczalski), A., 634.

molecular mixtures of naphthalene with (v. Bogdandy, Boehm, and Polanyi), A., 120.

production of volatile sulphur compounds of, from ores (Bur-DICK and GUGGENHEIM BROS.), (P.), B., 80.

and their oxides, precipitation of, from solutions by hydrogen (IPATIEV and KLINKOIA; IPATIEV and KISSELEV; IPATIEV and Kondyrev; Ipatiev and Nikolaiev), A., 739.

precipitation of, from non-aqueous solutions (MÜLLER and Tноіs), A., 31

displacement of, from their salt solutions (Bergstrom), A., 30. displacement of, or their oxides from their solutions (IPATIEV and Mouromtsev), A., 1043.

recovery of, from liquids (FEILD and ELECTRO METALLURGICAL Co.), (P.), B., 225.

recovery of, from slag (Rosenzweig), (P.), B., 970.

gas-tight joints botween glass or quartz and (Internat. Gen. Electric Co. and Allcem. Elektricitäts-Ges.; N.V. PHILIPS' GLOEILAMPENFABR.), (P.), B., 80; (JONAS and N.V. PHILIPS' GLOEILAMPENFABR.), (P.), B., 449*.

dissimilar, uniting of (Mougey and Gen. Motors Research

CORP.), (P.), B., 913.

degreasing of (SAVAGE), (P.), B., 913. manufacture of polishes for (GENGE), (P.), B., 913.

erucible for (Siemens-Schuckertwerke), (P.), B., 583. detection of impurities in, spectroscopically (BAYLE and AMY),

A., 845. determination of, in salts (COOMBS), A., 535.

determination and separation of, with S-hydroxyquinoline (Berg), A., 745, 847, 848.

separation of, forming volatile compounds (SIEMENS & HALSKE), (P.), B., 224.

Metals, acid-resisting (GUERTLER), B., 111.

alkali. See Alkali metals.

alkaline earth. See Alkaline-earth metals. carbon-binding, production of, and their alloys (Flodin and Gustafsson), (P.), B., 337.

east, influence of chemical and crystallographic properties of,

on behaviour during rolling (SEIDL), B., 940. cast and sheet, enamelling of (TOTOT-GIBARU), (P.), B., 109.

catalytic, Rentgen-ray structure of (Bredie and Allolio), A., 502.

cold-worked, magnetic properties in relation to hardness of (Williams), B., 604.

colloidal. See Colloidal metals.

compressed powdered, hardness of, after heating (GARRE), A., 504.

of the copper-magnesium group, double sulphates of sulphonium bases and (P. C. and N. Rây), A., 740.

ferrous, action of mixed saline solutions on (Girard), B., 581. protective coatings for (North; Murray), (P.), B., 80. heavy, precipitation of, from ammoniacal solutions (I. G.

FARBENIND.), (P.), B., 907.

of the iron group, magneton numbers of (LAPORTE and SOMMER-FELD), A., 86

precipitation of (IPATIEV and KONDYREV), A., 739. light, action of cement and gypsum on (MEYER and PUKALL), B.,

846. low-carbon, manufacture of (Nilson), (P.), B., 942,

of the niobium and tungsten groups, analysis of (Wada and Като), А., 1162.

non-ferrous, oxidation of (Rohmer and Andrews Lead Co.), (P.), B., 195.

attack of, by molten metals (Hartley), B., 279.

corrosion of (FULLER; McADAM), A., 1037; (VERNON), B., 301.

oxidisable, recovery of, and their protection (STAY, TESSIER, and Aluminum Co. of America; Michel), (P.), B., 528. of the platinum group (REMY and WAGNER), A., 34.

extraction of (Powell, Deering, and Johnson, Matthey & Co.), (P.), B., 942.

paramagnetism of (CABRERA and DUPÉRIER), A., 926. oxides of (Lunde), A., 815.

co-ordination compounds of (REMY), A., 94. detection of, with the glow test (DAVIS), A., 641. Metals of the platinum group, detection of, microscopically (BANNISTER), A., 746.

detection and determination of (SINGLETON), A., 641.

determination of, electrometrically (TREADWELL and ZÜR-CHER), A., 334.

powdered, action of, on catalase of blood (Lio), A., 1214.

precious, extraction of, from ores (MOND NICKEL Co. and ATKINSON), (P.), B., 302.

recovery of (Kuein), (P.), B., 115. from concentrates (Greenawalt), (P.), B., 726.

recovery and refining of (GORDON), (P.), B., 16.

treatment of ores of, for removal of sulphur, tellurium, and arsenic (Summerton), (P.), B., 726.

apparatus for washing refuse containing (Unrath), (P.), B., 683.

determination of, in ores (Lunde), B., 605.

pyrophoric, adsorption of gases by (NIKITIN; NIKITIN and SHARKOV), A., 406.

rare, reduction of oxides of (MARDEN and WESTINGHOUSE Lamp Co.), (P.), B., 40.

determination and separation of (Moser and Schmidt), A., 37; (Moser and Brukl), A., 436; (Moser and Niesser), A., 846.

rare earth. See under Earths, rare.

refractory, sintering of (Davis and Metropolitan-Vickers Electrical Co.), (P.), B., 753.

rolled and recrystallised, structure of (v. Goler and Sachs), A.,

scrap, containing gunmetal and white metal, treatment of, to recover the latter (Spence, Courtenay, and Courtenay), (P.), B., 847.

of the second group, spectra of (Saha), A., 705.

sheet, furnace for annealing plates of (Stanlwerke, Akt.-Ges., and Bernatzky), (P.), B., 225.

white, determination of antimony in (FITTER), B., 880.

Metal alkyls (Hein and Secirz), A., 138.

Metal baths, treatment of (BECKET and ELECTRO METALLURGICAL Co.), (P.), B., 583.

Metal castings, chill, manufacture of (Kötteritzsch), (P.), B.,

Metal sheets, manufacture of, by electrodeposition (Pedersen), (P.), B., 81.

Metal wire consisting of a single crystal (Koref, Hoffmann, and GEN. ELECTRIC Co.), (P.), B., 225.

annealing of (Siebe), B., 880.

Metal wool, manufacture of, from wire (MITCHELL), (P.), B., 370. Metaldehyde (Lew), B., 692.

manufacture of (Lichtenhahn, Lüscher, Steiger, and ELEKTRIZITÄTSWERK LONZA), (P.), B., 173*; (Lüscher and ELEKTRIZITÄTSWERK LONZA), (P.), B., 574*.

Metalignin, and its derivatives (Dorée and Barton-Wright), A.,

Metallic antimonides, arsenides, selenides, sulphides, and tellurides, lattice data for (De Jong and Willems), A., 815.

articles, heat-treatment of, in a gas current (EISENWERK ROTHAU-NEUDECK), (P.), B., 195.

earbides, formation of, during production of petrol from watergas (MEYER and ScHEFFER), B., 546.

manufacture of (GEWERKSCHAFT WALLRAM), (P.), B., 80. chlorides, anhydrous, manufacture of (Wonlers), (P.), B., 331*. reduction of, by hydrogen (BAGDASARIAN), A., 431.

coatings, preparation of, for walls and ceilings (De Lange), (P.), B., 939.

compositions (Boving and Western Electric Co.), (P.), B., 753.

conductors, surface heat of charging (Tonks and Langmuir), A., 505.

halides, optical dissociation of (TERENIN), A., 1009.

deflection of vapours of, in an electric field (WREDE), A., 917. compounds of, with eyanogen bromide (OBERHAUSER), A., 756. theory of formation of complex compounds of organic bases and (Soagliarini), A., 352.

hydrides, band spectra of (LUDLOFF), A., 5.

and nitrides, manufacture of (TILCHE), (P.), B., 440.

hydroxides, preparation of, for use as catalysts (I. G. FARBEN-IND.), (P.), B., 482.

adsorption of (SEN), A., 408, 509, 617, 721; (PERRY), A.,

crystallisation of (Fricke, Gottfried, Skaliks, Münch-MEYER, and ENGELHARDT), A., 1043.

Metallic hydroxides, peptisation of, in presence of non-electrolytes (SEN), A., 1024, 1025.

in presence of sugars (MEHROTRA and SEN), A., 1025.

determination of ionic concentration in dilute solutions of (LAUE), A., 1026.

gels, structure of (Gicklhorn), A., 624.

galvanocolloidal, decomposition of salt solutions by (Ruegg), A., 414.

materials for electrical heating, report on (HARVEY), B., 879. oxides, polymerisation of, with water (BARY), A., 822.

treatment of (ALUMINUM Co. OF AMERICA and HORSFIELD), (P.), B., 682.

rate of reduction of, by gases (EMMETT), A., 526.

use of, in hydrogenations and dehydrogenations (Sabatier and Fernandez), A., 866.

conversion of, into anhydrous fused chlorides (I. G. FARBEN-IND.), (P.), B., 749.

sols of silicic acid and (Fodor and Reifenberg), A., 620. difficultly soluble, action of, with solutions of their salts

(FEITKNECHT), (P.), B., 300. determination of solubility of, by titration (Busch), A., 535. mixed, emission of ions and electrons by (Kunsman), A., 180.

solid, electrical conductivity of mixtures of (FISCHER), A., 23. pieces, heat treatment of (FOURMENT), (P.), B., 943.

plates, compound, for use in thermostats (MILLER), (P.), B., 338. salts, infra-red absorption spectra of coloured solutions of (Dreisch), A., 186.

scattering of light by aqueous solutions of (Sweitzer), A., 932.

conductivity of solutions of, containing agar (IWASE), A., 1144. decomposition potentials and overvoltages of, in liquid ammonia and in water (GROENING and CADY), A., 210. compounds of, with pyridine (WEINLAND, EFFINGER, and

Beck), A., 673.

complex optically active (MANN and POPE), A., 296. adsorption of, on charcoal (NEKRASSOV), A., 106.

hydrated, dehydration of (RAKUZIN), A., 948.

of heavy metals, relation between activity of hydrogen and metallic cations in solutions of (QUINTIN), A., 729. See also Salts.

sulphates of bivalent metals, crystal structure of hydrates of (Westenbrink), A., 400.

sulphides, action of high temperature on (Picon), A., 220, 328. heavy, conductivity of (Tubandt and Hardicke), A., 402.

analysis of (Feigl; Feigl, Gleich, and Schacherl), A., 36. surfaces, electrical condition of, during adsorption of gases (Finch and Stimson), A., 1135.

Metallic organic compounds. See Organo-metallic compounds.

Metallisation (v. Bosse, Richter, Lauch, Siegelberg, and Косн), (Р.), В., 820.

Metallised surfaces, production of, on bodies containing sulphur (WARREN and PRECIOUS METALS INDUSTRIES), (P.), B., 912 Metallography, cathodic disintegration as a method of etching

specimens for (SMITH), B., 969. Metallurgical apparatus (Soc. Anon. Métallurgique d'Aubrives

& VILLERUPT), (P.), B., 81. Metallurgical industry in the east of France (Seigle), B., 484.

Metallurgical operations employing briquettes, conveyor for use in (New Jersey Zino Co., Breyer, and Bunce), (P.), B., 913. Metallurgy, dispersoid chemistry in (Sauerwald), B., 704. Metastability and enantiotropy (Cohen and Dekker), A., 818.

Metathorium oxide (metathoria), peptisation of (Levi and Reina), A., 414.

Metatungstates. See under Tungsten.

Meteoric iron from Tamentit, and its oxidation (LACROIX), A., 850. Meteorites, composition of (Washington), A., 1050.

bromine and iodine in (v. Fellenberg), A., 955. Lanzenkirchen, composition of (DITTLER), A., 642.

Merua (Tipper), A., 956.

South African (PRIOR), A., 225. stony, from Forksville, Virginia (MERRILL), A., 643.

Methæmoglobin, action of essential oils on formation of (Desse-MONTET), A., 1102.

influence of the spleen on formation and removal of, in blood (RAY and STIMSON), A., 792. reduction of (HILL and HOLDEN), A., 689.

Methane (marsh gas; firedamp), equilibrium of the formation of (Cantelo), A., 20, 321.

manufacture of (CHEM. FABR. GRIESHEIM-ELEKTRON), (P.), B., 316; (I. G. FARBENIND.), (P.), B., 860*.

Methane, production of, from carbon monoxide and hydrogen (RIÉGERT', (P.), B., 937.

from peat fermentation (MELIN, NORRBIN, and ODEN), B., 271. molecular model for (DE BOER and VAN ARKEL), A., 189.

refractivity of (Friberg), A., 499.

infra-red absorption spectrum of (Ellis), A., 608.

band spectrum of (McDonald), A., 1123.

ionisation potential of (Pietsch and Wilcke), A., 712.

dissociation of (Scheffer, Dokkum, and Al.), A., 29. isometries of (KEYES and BURKS), A., 719.

ignition of (COWARD and MEITER), A., 318.

propagation of flame in mixtures of air and (Charman and WHEELER), A., 211.

combustion of, over cupric oxide (BRODY and MILLNER), A., 939. oxygen required for (Jones and Perrott), A., 1036.

effect of carbon tetrachloride and dioxide on explosion of mixtures of air and (Jorissen and Kayser), A., 733.

explosion of mixtures of oxygen and (Bone, Fraser, and Witt), A., 424; (Saunders), A., 605; (Townend), A., 1146. and its homologues, explosibility of (COWARD, JONES, DUNKLE, and HESS), A., 834.

influence of anti-knock compounds on oxidation of (LIND and BARDWELL), B., 384

effect of various catalysts on oxidation of, in air (Yant and HAWK), A., 737.

catalytic oxidation of, to formaldehyde (MEDVEDEV), A., 1165. conversion of, into a carburetting agent similar to petroleum (SPINDLER and GOUDET), (P.), B., 868.

into higher hydrocarbons (Pétrole Synthetique and Folliet), (P.), B., 100, 548.

equilibrium of decomposition of (Cantelo), A., 204.

lecture experiment to show decomposition of (PLESNIEWICZ), A., 225.

decomposition of, in presence of cobalt or iron (Schenck, KRÄGELOH, EISENSTECKEN, and KLAS; SCHENCK, KRÄGELOH, and Eisenstecken), A., 939.

determination of, in gas mixtures (Thorburn), B., 803. Methane, chlorobromoiodo- (GARINO and TEOFILI), A., 130. aa-chloronitroso- (RHEINBOLDT and DEWALD), A., 229. tetraiodo-, preparation of (Durand), A., 1166.

nitro-, action of, on benzil (KASIWAGI), A., 246.

compounds of with titanic chloride (REIHLEN and HAKE), A.,

Methanesulphinic acid, hydroxy-, zinc salt (Bazlen), A., 843. Methanesulphonic acids, dihalogeno-, and their salts (BACKER),

Methanesulphonyl chloride, trichloro- (DURAND and NAVES), A., 645.

Methanol. See Methyl alcohol.

Methenylbisdiketohydrindene, and its derivatives (Ionescu and Georgescu), A., 880.

Methenylbis-4:4-dimethylcyclohexane-2:6-dione, and its aminoderivative (Ionescu and Georgescu), A., 651.

Methenylbis-1-phenyl-3-methyl-5-pyrazolone, sodium derivative (Ionescu and Georgescu), A., 880.

Methoxide, sodium, reducing action of (FRY and CAMERON),

4-Methoxyacetanilide, 5-bromo-2-hydroxy-, 2-hydroxy-, and 5-nitro-2-hydroxy- (LINDEMANN, KÖNITZER, and ROMANOFF), A., 980.

Methoxyacetic acid, β -octyl ester, and its behaviour with solvents (RULE and MITCHELL), A., 132.

3-Methoxyacetophenone, 2-hydroxy- (Reichstein), A., 565.

4-Methoxyacetophenones, ωωω-trichloro-, and ωωω-trichloro-3bromo- (HOUBEN and FISCHER), A., 1079.

Methoxyacetophenoneoxime, 5-bromo-2-hydroxy-, 2-hydroxy-, and 5-nitro-2-hydroxy-, and their acetates (LINDEMANN, KÖNITZER, and ROMANOFF), A., 980.

6-Methoxy-2-acetyl-3- β -phthalimidoethylindole (Manske, Perkin, and Robinson), A., 265.

6-Methoxy-3-acetylquinoline, 2-hydroxy-, and its phenylhydrazone (Tröger and Conaus), A., 1086.

7-Methoxy-1-o-aminophenyl-2-naphthylamine (Fuchs and Niszel), A., 257.

o-Methoxy-β-anilinopropenyl methyl ketone (Roberts and Turner), A., 976.

8-Methoxy-3-o-anisolesulphonylquinoline, 2-chloro-, 2-hydroxy-, and 2-thiol- (Tröger and Krückeberg), A., 159.

1-Methoxyanthraquinone, 4-bromo-, 2:4-dibromo-, and 4-chloro-(ECKERT and HAMPEL), A., 882.

5-Methoxyanthraquinone, 1-amino- (Badische Anilin- & Soda-Fabrik), (P.), B., 326.

7-Methoxyanthrone, 1:3-dihydroxy-, and its derivatives (Shinoda), A., 1083.

7-Methoxy-3-arylsulphonylquinolines, 2-substituted, and their salts (Tröger and Krückeberg), A., 159.

3-Methoxybenzaldehyde, 2-amino-, derivatives of (Tröger and Bounekamp), A., 1200.

condensation of, and its derivatives, and 2-o-bromo- and 2-o-chloro-amino-, derivatives of (Tröger and Sabewa),

6-amino-, derivatives of (Tröger and Cohaus), A., 1086.

5-Methoxybenzaldehyde, 3-hydroxy-, and its derivatives (Mauth-NER), A., 970.

Methoxybenzaldehydes, chloro-, and their derivatives (Hodgson and Jenkinson), A., 877.

dihydroxy-, isomeric, and oximino- (KARRER and BLOCH), A., 564.

3-Methoxybenzaldehydes, dinitro-, and their derivatives (Tröcer and Eicker), A., 768; (Hodgson and Beard), A., 1075. o-Methoxybenzanilide (BILLON), A., 879.

2-Methoxybenz-o-anisidide, 3-amino-, and its formyl derivative (Terentiev and Rubinstein), A., 1064.

o-Methoxybenzaldoxime, preparation of (Brady and Bennett), A., 563.

6-Methoxybenzaldoxime, 2-hydroxy- (Shinoda), A., 1083.

(Schirmacher, Zahn, Bz-21-Methoxybenzanthrone OCHWAT, and GRASSELLI DYESTUFF CORP.), (P.), B., 275. p-Methoxybenzeneazo-1-isoamylpyrrole (Reichstein), A., 573.

p-Methoxybenzeneazo-1-n-butylpyrrole (Reichstein), A., 573. p-Methoxybenzenediazonium chlorobismuthate (Charrier), A., 1064.

7-Methoxy-3-benzenesulphonylquinoline, 2-chloro-, 2-hydroxy-, and 2-thiol- (Tröger and Krückeberg), A., 159.

o-Methoxybenzoic acid, purification of (CATTELAIN), A., 358.

2-Methoxybenzoic acid, 3-amino- (Terentiev and Rubinstein), A., 1064.

4-chloro- (Hodgson and Jenkinson), A., 877.

3-Methoxybenzoic acid, 5-hydroxy- (MAUTHNER), A., 970. 2:6-dinitro- (Hodgson and Beard), A., 1075.

4-Methoxybenzoic acid, 5-bromo-2-hydroxy- (RICE), A., 150. 2:3-dinitro-, and its methyl ester (Dadswell and Kenner), A., 457.

3-Methoxybenzoic acids, dinitro-, and their salts and derivatives (TRÖGER and EICKER), A., 768.

2-Methoxybenzoic anhydride (Billon), A., 879.

3-Methoxybenzonitrile, 5:6-dibromo-4-hydroxy-, and its benzoyl derivative (RAIFORD and HILMAN), A., 769.

6-hydroxy- (Shinoda), A., 1083. a-Methoxy-δ-benzoyl-Δa-buten-y-one, and its copper derivative (Borsche and Peter), A., 571.

p-Methoxybenzoyldiphenylamine (Chapman), A., 874.
6-Methoxy-3-benzoylquinoline, 2-hydrony, and phenyland its hydrazone (Tröger and Conaus), A., 1086.

8-Methoxy-3-benzoylquinoline, 2-hydroxy-, and hydrazone (Tröger and Bohnekamp), A., 1200. and its phenyl-

5-Methoxybenzthiazole, 1-amino-, and its dibromide (Dyson, HUNTER, and MORRIS), A., 680.

6-Methoxybenzthiodiazole, 7-chloro- (FRIES, VORBRODT, and

SIEBERT), A., 780. N-o-Methoxybenzylanisaldoxime (BRADY and BENNETT), A.,

563. Methoxybenzyldimethylamines, and their hydrochlorides (STED-MAN), A., 967.

5'-Methoxybenzylhydromethylhydrastinine, 2'-nitro- (OBERLIN), A., 681.

N-o-Methoxybenzylhydroxylamine, hydrochloride, and nitroso-(Brady and Bennett), A., 563.

Methoxybenzylideneanilines, hydrolysis of (LANGMAN, REALY,

and DUTT), A., 768. 5-Methoxybenzylidenediacetophenone, 2-hydroxy- (IRVINE and Robinson), A., 1084.

5-Methoxy-2-benzylideneindan-1-one (BRAND, WENDEL, HORN), A., 550.

1-(3' - Methoxy - 4' - benzyloxy - 6' - nitrobenzyl)hydromethylhydrastinine (OBERLIN), A., 681.

3-Methoxy-4-benzyloxystyryl methyl ketone, and its semicarbazone (Dickinson, Heilbron, and Irving), A., 972.

N-Methoxybenzylphthalimides, and 4-hydroxy- (I. G. FARBENIND. and A.-G. für Anilin-Fabr.), (P.), B., 572.

- 6 Methoxy 3 p bromobenzenesulphonylquinoline, 2 amino-(Tröger and Cohaus), A., 1086.
- 8-Methoxy-3-p-bromobenzenesulphonylquinoline, 2-hydroxy-(Tröger and Krückeberg), A., 159.
- a-Methoxy- $\alpha\beta$ -di-p-bromobenzoylethylene (Lutz), A., 59.
- 2-Methoxy- $4-\Delta\beta$ -butenylphenol. See Homoeugenol.
- β-Methoxybutyrophenone (Dufraisse and Demontvignier), A., 878.
- Methoxycarbamide (Jones and Major), A., 754.
- 8-Methoxy-3-p-chlorobenzenesulphonylquinoline, 2-chloro- and 2-hydroxy- (Tröcer and Krückeberg), A., 159.
- 7-Methoxychromanone, derivatives of (Perkin, Rây, and Robinson), A., 1085.
- 3-Methoxycinnamaldehyde, 4-hydroxy-, alkali derivatives of (Pauly and Feuerstein), A., 649.
- o-Methoxytranscinnamic acid, ethyl ester (van Duin), A., 663. 5-Methoxycinnamic acid, 3-hydroxy- (Mauthner), A., 970.
- p-Methoxycinnamoylacetic acid, methyl ester (Borsche and Walter), A., 1192.
- p-Methoxycinnamoylacetoacetic acid, methyl ester, and its copper derivative (Borsche and Walter), A., 1192.
- 3-Methoxycinnamoylacetophenone, p-4-hydroxy-. See p-Feruloylacetophenone.
- Metboxy-compounds, refractometry of (Brand and Kranz), A. 555.
- Methoxycresol, 2:4:6-tribromo- (BURES), A., 763.
- 3-Methoxy-α-cyanocinnamic acid, 5-chloro-4-hydroxy- (Hann and Spencer), A., 361.
- 6-Methoxy-3-cyano-2-phenylquinoline, and its chloroplatinate (Тröger and Сонлиз), А., 1086.
- 8-Methoxy-3-cyano-2-phenylquinoline, and its salts (Tröger and Bohnekamp), A., 1201.
- 6-Methoxy-3-cyanoquinoline, 2-amino-, and 2-hydroxy- (Tröger and Conaus), A., 1086.
- 4-Methoxy-2:2-di-p-anisyI-\(\Delta^3\)-chromen (Heilbron and Hill), A., 1082.
- 5-Methoxy-5:6-dihydrouracil, 5:6-dihydroxy- (Biltz, Paetzold, and Nachtwey), A., 259.
- 7-Methoxy-1:2-diketodihydro-β-naphthofuran, and its quinoxaline derivative (Lesser and Gad), Å., 247.
- β-Methoxy-β-3:4-dimethoxyphenylethylamine, and its hydrochloride and derivatives (Rosenmund, Nothnagel, and Riesenfeldt), A., 368; (Mannich and Walther), A., 579.
- α-Methoxy-p-dimethoxyphenyl-2-hydroxy-1-naphthylacetolactone (Löwenbein and Schmidt), A., 1073.
- 5-Methoxy-1:3-dimethyl-5:6-dihydrouracyl 6-nitrite, 5-hydroxy-(Biltz, Paetzold, and Nachtwey), A., 259.
- Methoxydimethylhydroxyethylammonium hydroxide and salts (Jones and M. Jor.), A., 754.
- 2-Methoxy-4:6-dimethylphenylglyoxylic acid, and its silver salt and derivatives (v. Auwers, Herbener, and Gaertner), A., 157.
- 2-Methoxy-5:6-dimethylphenyl styryl ketone (Simonis and Danischewski), A., 154.
- 4-Methoxydiphenyl, mono- and di-nitro- (Bell and Kenyon),
 A., 145.
 2-Methoxydiphenyl-2'-carboxylic acid, and its methyl ester (Rule
- and Bretscher), A., 561.
 4-Methoxy-2:2-diphenyl- Δ^3 -chromen (Heilbron and Hill), A.,
- 4-Methoxy-2:2-diphenyl-△3-chromen (Heilbron and Hill), A., 1082.
- 2-Methoxy-4:6-diphenyl-3:3-dimethyl-3:4-dihydro-1:2-pyran (MEER-WEIN, BRÄKE, KOMANT, and MORSCHEL), A., 876.
- 3-Methoxy-1:3-diphenyl-1:2-dimethylhydrindene, l-hydroxy-(Weiss and Luff), A., 971.
- 2-Methoxy-4:6-diphenyl-3:3-dimethyltetrahydropyran (MEERWEIN, BRAKE, KOMANT, and MORSCHEL), A., 876.
- 1-Methoxy-1:3-diphenylhydrindene, 2-bromo- (Weiss and Luft), A., 970.
- 2-Methoxydistyryl ketone, 4'-chloro- (Heilbron and Hill), A., 565.
 3-'Methoxydistyryl ketone, 2:4'-dihydroxy-, and its salts (Glaser and Tramer), A., 972.
- Methoxydodecenol (CHUIT, BOELSING, and MALET), A., 446.
- p-Methoxyephedrine. See β-Methylamino-a-hydroxy-a-p-anisyl-propane.
- 8-Methoxy-2-ethoxy-3-benzenesulphonylquinoline (Tröger and Krückeberg), A., 159.
- 4-Methoxy-2'-ethoxydibenzoylmethane (TASAKI), A., 1078.
- Methoxyethoxy-3:4-dihydroisoquinoline, salts of (Späth and Erstein), A., 164.
- Methoxyethoxy-1-keto-2-methyl-1;2:3:4-tetrahydroisoquinolines (Späth and Erstein), A., 164.

- 3-Methoxy-4-ethoxystyryl methyl ketone, and its derivatives (Dickinson, Heilbron, and Irving), A., 972.
- 8-Methoxyflavanhydrone, 4'-hydroxy- (IRVINE and ROBINSON), A. 1084.
- Methoxyflavones (Simonis and Danischewski), A., 154.
- Methoxyflavylium chlorides, trihydroxy- (Robertson and Robinson), A., 974.
 - salts, and 4'-hydroxy-, and 5:7:4'-dihydroxy- (Pratt, Robertson and Robinson; Irvine and Robinson), A., 1084.
- Δ1-Methoxycyclohexene (Wieland and Garbsch), A., 54.
- 5-Methoxy-6-hydrazinophthalide, 3-nitro-, and its derivatives (Tasman), A., 876.
- p-Methoxyhydrocinnamodimethylamide (Kindler), A., 759. Methoxy-2-hydroxydiphenylacetolactone (Löwenbein and Schmidt), A., 1072.
- 3:3'- Methoxy-4'-hydroxystyryl-β-naphthapyrylium chloride (Dickinson and Hellbron), A., 252.
- 6-Methoxyindazole, 7-nitro- (Dadswell and Kenner), A., 456. 4-Methoxy-2-keto-3-phenyl-1:2:3:4-tetrahydroqumazoline (Reissert and Schaaf), A., 62.
- Methoxyl groups, micro-determination of (FRIEDRICH), A., 475. determination of, in presence of aldehydes (Wiesler), A., 1101.
- 6-Methoxy-1-(3'-methoxybenzyl)-3:4-dihydroisoquinoline, and its salts (Charravarti, Haworth, and Perkin), A., 1096.
- 6-Methoxy-1-(3'-methoxybenzyl)-1:2:3:4-tetrahydroisoquinoline, and its salts and N-formyl derivative (Спаквачавті, Намовтії, and Ревкії), А., 1096.
- 4-Methoxy-2-methylacetophenone, oww-trichloro- (Houben and Fischer), A., 1079.
- 9-Methoxymethylanthraeene, 1:5-dichloro- (Barnett, Cook, and Matthews), A., 140.
- 3-Methoxy-α-methylcinnamaldehyde, 6-nitro- (Willimott and Simpson), A., 257.
- Methoxymethyldihydrobrucidine, and its salts (Gulland, Perkin, and Robinson), A., 889.
- Methoxymethyldihydrostrychnidine, and its salts (CLEMO, PERKIN, and ROBINSON), A., 888.
- 1-Methoxymethyl-3:7-dimethylxanthine (Schranz, Lutter, and Winthrop Chemical Co.), (P.), B., 203*.
- 4'-Methoxy-5-methyldiphenylacetolactone, bromo-2-hydroxy-(LÖWENBEIN and SCHMIDT), A., 1073.
- β-Methoxy-β-3:4-methylenedioxyphenylethylamine hydrochloride (Rosenmund, Nothnagel, and Riesenfeldt), A., 368.
- β-Methoxy-β-3:4-methylenedioxyphenylethylphthalamic acid methyl ester (Mannich and Walther), A., 562.
- ω-Methoxy-5-methylfuran-2-carboxylic acid (HAWORTH, HIRST, and NICHOLSON), A., 859.
- ω-Methoxy-5-methylfurfuraldehyde, and its derivatives (Haworth, Hirst, and Nicholson), A., 859.
- 6-Methoxymethylhomopiperonylic acid, and its silver salt and methyl ester (STEVENS), A., 266.
- Methoxymethylindoxazens, and 4-bromo-, and 4-nitro- (LINDE-MANN, KÖNITZER, and ROMANOFF), A., 980.
- 2-Methoxy-N-methyl-1-naphth-α-aldoxime (Brady and Gold-
- STEIN), A., 973. 2-Methoxy-5-methylphenylglyoxylic acid, and its ethyl ester (v.
- AUWERS, HERBENER, and GAERTNER), A., 157. 6-Methoxy-3-methylquinoline, and its salts (Willimott and
- SIMPSON), A., 257. 6-Methoxy-4-methylquinoline, and its 2-carboxylic acid (CHEM.
- FABR. Schering), (P.), B., 380. 6-Methoxy-2-methylquinoline-3-carboxylic acid, ethyl ester
- (TRÖGER and COHAUS), A., 1086.

 Methoxymethylstrychnidonic acid, and its anhydro-derivative
- (CLEMO, PERKIN, and ROBINSON), A., 888. p-Methoxy-a-methylstyryl methyl ketone, and its derivatives
- (IWAMOTO), A., 566. Methoxymethyltetrahydrobrucidine, and its salts (Gulland, Per-
- KIN, and ROBINSON), A., 890. Methoxymethyltetrahydrostrychnidine, and its salts (CLEMO, PER-
- KIN, and ROBINSON), A., 889.
- 7-Methoxy-1:2-naphthacarbazole (Fuchs and Niszel), A., 257. 3-Methoxynaphthacridonequinone (Lewicka), A., 575.
- S-Methoxyna-naphthaldehyde, and its derivatives (Shoesmith and Rubli), A., 152.
- Methoxy-1-naphthaldoximes, and their salts and derivatives (BRADY and GOLDSTEIN), A., 973.
- Methoxynaphthaquinols, isomeric, and their diacetates (Fieser), A., 59.
- Methoxynaphthaquinones, isomeric (FIESER), A., 59.

- 4-Methoxy-1-naphthoic acid, 8-amino- (I. G. FARBENIND.), (P.), B., 808.
- 5-Methoxy-α-naphthoyl chloride (Shoesmith and Rubli), A., 152. 2'-Methoxy-2:4-dinitrostilbene (Robinson and Zaki), A., 1184.
- m-Methoxy-ω-nitrostyrene (Shoesmith and Connor), A., 1067.
- 4-Methoxy-m-oxalotoluidide (Dadswell and Kenner), A., 457. ε-Methoxy-Δα-pentene, β-bromo-(Lespieau and Deluchat), A., 39.
- 6-Methoxy-4-phenacylideneflavene, and its ferrichloride (TRVINE and ROBINSON), A., 1084.
- p-Methoxyphenacylphthalimide (Berlingozzi and Burg), A., 674. 8-Methoxy-3-p-phenetolesulphonylquinoline, 2-chloro-, and 2-hydroxy- (Tröger and Krückeberg), A., 159.
- p-Methoxyphenol. See Quinol methyl ether. o-Methoxyphenoxyacetic acid (Behaghel), A., 149.
- 4-(4'-Methoxyphenoxy)benzoic acid, 3:5'-diiodo-4-(3':5'-diiodo-), and its esters (Harington and Barger), A., 358.
- 4-(4'-Methoxyphenoxy)cinnamic acid, 3:5-diodo-α-amino-, benzoyl derivative, othyl ester (HARINGTON and BARGER), A., 358.
- 4-(4-Methoxyphenoxy)nitrobenzene, 3:5-diodo- (Harington and Barger), A., 358.
- β-m-Methoxyphenoxypropionic acid, ethyl ester (Perkin, Rây, and Robinson), A., 1085.
- 2-Methoxyphenyl methyl sulphoxide, 5-nitro- (POLLARD and ROBINSON), A., 146.
- m-Methoxyphenylacetaldoxime (Shoesmith and Connon), A., 1066. 2-Methoxyphenyl-6-p-acetamidophenylquiuoline-4-carboxylic acid, and 2-hydroxy- (Berlingozzi and Turco), A., 674.
- 2-p-Methoxyphenyl-1:3-benzdithiole, and its oxide, and their salts (Hurtley and Smiles), A., 466.
- 5-Methoxy-1-phenylbenzthiazole (FRIES and BUCHLER), A., 781.
- 6-Methoxy-2-phenylbenztriazole, 5-amino-, and its acetyl derivative (FRIES, SUDHOFF, and BRETTSCHNEIDER), A., 778.
- 4-Methoxyphenylisobutyl alcohol, γ-3-hydroxy- (Mannich and Merz), A., 555.
- 4-Methoxyphenylisobutylamines, γ-hydroxy-, and their salts and derivatives (Mannicu and Merz), A., 555.
- β-Methoxy-α-phenylcarbamide (JONES and Major), A., 754. 3-c-Methoxyphenyl-5-p-chlorostyryl-Δ5-cyclohexen-1-one-2-carb-
- oxylic acid, ethyl ester (Helebron and Hill), A., 565. Methoxyphenyl β -chlorostyryl ketone, 2-hydroxy- (Simonis and
- Danischewski), A., 154. 3-Methoxy-α-phenyleinnamic acids, dinitro-, and their salts (Tröger and Eicker), A., 768.
- 4-p-Methoxyphenyl-2:6-dimethyldihydropyridine-3:5-dicarboxylic acid, ethyl ester (Еммект, Diefenbach, and Еск), А., 1200.
- 4-p-Methoxyphenyl-2:6-dimethylpyridine-3:5-dicarboxylic acid, ethyl ester (Emmert, Diefenbach, and Eck), A., 1200.
- s-p-Methoxyphenyldimethylthiocarbamide (Hunter and Styles), A., 680.
- δ-Methoxy-β-phenyl-γγ-dimethylvalerolactone (ΜΕΕRWEIN, ΒRÄKE, ΚΟΜΑΝΤ, and MORSCHEL), A., 875.
- β-Methoxyphenylethyl alcohols, isomeric, action of phosphorus pentabromide on (Shoesmith and Connor), A., 1066.
- β -Methoxyphenylethyl bromides, and bromo- (Šhoesmith and Connor), A., 1066.
- β -Methoxy- β -phenylethylamine, derivatives of (Mannich and Walther), A., 579.
- β-p-Methoxyphenylethyldimethylamine (KINDLER), A., 760.
- 4-Methoxyphenylethyl methyl ketone, 3-hydroxy-, and its derivatives (Mannich and Merz), A., 555.
- 3-Methoxyphenylethyl-n-nonyl ketone, 4-hydroxy-, and its derivatives (Nomura and Tsurumi), A., 1078.
- β-Methoxy-β-phenylethylphthalamic acid, derivatives of (Mannich and Walther), A., 562.
- $N-\beta-p$ -Methoxyphenylethylpiperidine (KINDLER), A., 760.
- 4-Methoxyphenylhydrazine, 3:5-dibromo-, hydrochloride (Hall and Gibbs), A., 1181.
- 4-Methoxyphenylhydrazine, 2:3-dichloro-, and its p-nitrobenzylidene derivative (Fries, Vorbroot, and Siebert), A., 780.
- 4'-Methoxyphenyl-2-hydroxy-1-naphthylacetolactone, (Löwenbein and Schmidt), A., 1073.
- 3-Methoxy-2-phenylindole (Robinson and Thornley), A., 158. m-Methoxyphenyl-β-m-methoxyphenylethylamide (Chakravarti, Haworth, and Perkin), A., 1096.
- Methoxy-2-phenyl-5-methylbenzopyrylium salts, and 7-hydroxy-(Hirst), A., 1189.
- β -Methoxy- α -phenyl- β -methylcarbamide (Jones and Major), A., 754.
- 2-(4'-Methoxyphenyl)-1:2-naphthatriazole, 2-3'-amino- (I. G. Farbenind.), (P.), B., 275.

- 2-(2'-Methoxyphenyl)phthalide, 2-5'-bromo- (Brubaker and Adams), A., 1072.
- δ-4-Methoxyphenyl-β-piperidinobutane, 3-hydroxy-, and its benzoate (Mannich and Merz), A., 556.
- γ-p-Methoxyphenylpropyldimethylamine (KINDLER), A., 759.
- 8-Methoxy-2-phenylquinazoline, and 2-p-bromo, and mono- and di-chloro-, and their salts (Tröder and Sabewa), A., 1090.
- 2-p-Methoxyphenylquinoline, 3-amino-, and its acetyl derivative (Berlingozzi and Burg), A., 1087.
- 6-Methoxy-3-phenylquinoline, 2-amino-, and 2-hydroxy- (Tröger and Cohaus), A., 1086.
- 2-p-Methoxyphenylquinoline-4-carboxylic acid, 3-amino-, and its acetyl derivative (Berlingozzi and Burg), A., 1087.
- 6-Methoxy-2-phenylquinoline-3-carboxylic acid, and its silver salt and derivatives (Tröger and Cohaus), A., 1086.
- 8-Methoxy-2-phenylquinoline-3-carboxylic acid, and its derivatives (Tröger and Bohnekamp), A., 1201.
- Methoxyphenyl styryl ketone, 2-hydroxy- (Simonis and Danis-CHEWSKI), A., 154.
- N-p-Methoxyphenylthioacetopiperidide (KINDLER), A., 760.
- 4-Methoxyphthalidecarboxylic acid, 3-hydroxy- (Perkin and Trikojus), A., 56.
- β-Methoxypropane, a-bromo-β-hydroxy-, a-chloro-γ-bromo-, and a-iodo-β-hydroxy- (Blanchard), A., 853.
- γ-Methoxypropan-β-ol, a-chloro- (Fourneau and Ribas), A., 131. 3-m-Methoxy-p-propoxyphenyl-5-m-methoxy-p-propoxystyryl-Δ5-cyclohexen-1-one (Diokinson, Heilbron, and Irving), A., 979
- 3-Methoxy-4-propoxystyryl methyl ketones, and their semicarbazone (Dickinson, Heilbron, and Irving), A., 972.
- β -Methoxy- α -propylthiocarbamide (Jones and Major), A., 754. 8-Methoxy-2-quinazolone, and its chloroplatinate (Tröger and
- BOHNEKAMP), A., 1201.
- 6-Methoxyquinoline (MASCHMANN), A., 158.
- 6-Methoxyquinoline, 8-nitro- (Farbenfabr. vorm. Bayer & Co.), (P.), B., 379.
- 8-Methoxyquinoline, 2-amino-3-cyano- (Tröger and Bohnekamp), A., 1201.
- 6-Methoxyquinoline-3-carboxylic acid, 2-amino-, and 2-hydroxy-, and their salts (Tröger and Conaus), A., 1086.
- 8-Methoxyquinoline-3-carboxylic acid, 2-amino-, and its ehloroplatinate (Tröger and Bohnekamp), A., 1201.
- β -(6-Methoxy-8-quinoliny)amino- ϵ -diethoxyamino-n-pentane (FARBENFABR. VORM. BAYER & Co.), (P.), B., 379.
- β -(6-Methoxy-8-quinolinyl) amino- ϵ -dimethylamino-n-pentane (Farbenfabr. vorm. Bayer & Co.), (P.), B., 379.
- 5-Methoxysalicylidenediacetophenone. See 5-Methoxybenzylidene-
- diacetophenone, 2-hydroxy-
- 4'-Methoxystilbene, 2:4:6-trinitro- (NISBET), A., 1063. 3-Methoxystyrene, 4-hydroxy-, and its salts and methyl ether (FROMM), A., 968.
- 3-Methoxystyryl n-butyl ketone, 4-hydroxy-, synthesis of (Nomura and Tsuppart) A 1078
- and Tsurumi), A., 1078.
 3-Methoxystyryl methyl ketone, 5-bromo-4-hydroxy-, and its salts
- (GLASER and TRAMER), A., 972.

 Methoxystyryl methyl ketones, hydroxy-, and their derivatives
- (Mannich and Merz), A., 555. 3-p-Methoxystyryl-β-naphthapyrylium chloride (Dickinson and
- Heilbron), A., 252.
- 3-Methoxystyryl n-nonyl ketone, 4-hydroxy- (Nomura and Tsu-RUMI), A., 1078.
- 8-Methoxy-1:2:3:4-tetrahydroquinoline hydrochloride, and its benzoyl derivatives (Tröger and Krückeberg), A., 159.
- 2-Methoxytetrophan (v. Braun and Jungmann), A., 258.
- 5-Methoxythiophenol, 6-chloro-2-amino- (Fries, Vorbrodt, and Siebert), A., 780.
- 4-Methoxy-2-thio-3-phenyl-1:2:3:4-tetrahydroquinazoline (Reissert and Schaff), A., 62.
- 4- Methoxy-2-thio-3-phenyl-1:2:3:4-tetrahydroquinazoline-4-carboxylic acid, methyl ester (Reissert and Schaaf), A., 62.
- 4-Methoxytoluene, 3-chloro-6-nitro-, and dinitro- (DADSWELL and KENNER), A., 456.
- Methoxytoluenes, 3:5-dibromo-, and 2:4:6-trichloro- (Bureš), A., 763.
- 8-Methoxy-3-p-toluenesulphonylquinoline, 2-chloro-, 2-hydroxyand 2-thiol- (Tröder and Krückeberg), A., 159.
- 5-Methoxy-o-toluidine, and its hydrochloride and acetyl derivative (Lewicka), A., 575.
- 4-Methoxytoluidines, nitro-, and their acetyl derivatives (Dadswell and Kenner), A., 456.

- 4-Methoxy-m-tolyl β -chlorostyryl ketone (Simonis and Lear), A.,
- 4-Methoxy-m-tolyl β -phenylethinyl ketone (Simonis and Lear), A., 154.
- 4-Methoxy-m-tolyl styryl ketone (Simonis and Lear), A., 154. 7-Methoxy-4-(3':4':5'-trimethoxyphenyl)coumarin (Bargellini and GRIPPA), A., 465.
- Methoxytriphenylcarbinols, use of, as indicators (Kolthoff), A.,
- Methyl alcohol, preparation of (Soc. CHIM. USINES DU RHÔNE), (P.), B., 156.

catalysts for (TAYLOR and KISTIAKOWSKY), A., 1151.

manufacture of (Burke and McKee), (P.), B., 28; (Dreyfus), (P.), B., 124; (Woodruff, Bloomfield, and Commercial Solvents Corp.), (P.), B., 125; (Synthetic Ammonia & NITRATES and SMITH), (P.), B., 828.

practically pure (AUDIBERT), (P.), B., 571.

- catalytic manufacture of (BADISCHE ANILIN- & SODA-FABRIK), (P.), B., 316; (Woodruff, Bloomfield, and Commercial SOLVENTS CORP.), (P.), B., 540.
- and liquid hydrocarbons (PATART), (P.), B., 346, 347, 460*. synthetic, production of, from butyl fermentation gases (Wood-RUFF), B., 888.

in spirits prepared from fruit residues (Reif), B., 455. mobility of ions in (HARTLEY and RAIKES), A., 1032.

conductivity of acids in (Goldschmidt, Marum, and Thomas), A., 1143.

heat of formation and specific heat of (Wolfender, Jackson, and Hartley), A., 733.

heats of mixture of cyclohexane and (Mondain-Monval), A., 23. viscosity of, at low temperatures (MITSUKURI and TONOMURA),

influence of dissolved salts on miscibility temperatures of mixtures of paraffins with (Howard and Patterson), A., 15. vapour pressure of mixtures of ethyl and methyl acetates with (Bredig and Bayer), A., 1142.

vapour pressure of mixtures of water and (BREDIG and BAYER),

A., 1140.

- van der Waals constants for (Weissenberger and Henke), A., 111.
- equilibrium of methyl benzoate, water, and (GILBERT and LAUER), A., 830.

action of hydrochloric acid on (CARTER and MEGSON), B., 155. action of, on phenol (IPATIEV, ORLOV, and PETROV), A., 239, 762.

analyses of mixtures of ethyl alcohol and water with (BERL and Ranis), B., 955.

detection of, with potassium guaiacolsulphonate (BAUER; MATTHES), A., 66.

determination of, in presence of ethyl alcohol (MORTIMER; WRIGHT), A., 687.

determination of, in ethyl alcohol and alcoholic beverages WILLIAMS), B., 686.

Methyl n-amyl ether, ultra-violet absorption spectrum of (SMITH, Adams, and Pease), A., 608; (De Laszlo), A., 918.

isoamyl and ethyl sulphites (Bourgeois and Casteele), A., 444. hydrogen, potassium, and sodium carbonates (FAURHOLT), A., 515.

sodium carbonate, hydrolysis of (FAURHOLT), A., 525. chloride (chloromethane), gaseous (BATUECAS), A., 102.

adsorption of, by glass walls (CRESPI), A., 406.

toxicity of (Baker), A., 900.

detection and determination of (Roka and Fucus), A., 984. diacetone ether (Hoffman), A., 338.

ether, kinetics of decomposition of (HINSHELWOOD and ASKEY), A., 630.

influence of hydrogen on decomposition of (HINSHELWOOD and Askey), A., 1036.

γ-hydroxypropyl sulphide (Bennett and Hock), A., 1166. iodide, compound of, with thioacetanilide (DIELS and LICHTE),

mercaptan, perchloro- (GUTMANN), A., 644.

2-chloro- (NAIR and SIMONSEN), A., 159.

 β -nitro- α -3:4-dimethoxyphenylethyl and - α -3:4-methylenedioxyphenylethyl ethers (ROSENMUND, NOTHNAGEL, and RIESEN-FELDT), A., 368.

orthocarbonate (v. HARTEL), A., 1054. o-phenylene phosphate (ANSCHÜTZ and BROCKER), A., 146. 3-Methylacenaphthenequinone (Lesser and Gad), A., 247. Methylacenaphthpyridine, and hydroxy-, and their salts, and

5-Methylacetophenone, 2-chloro- (ALLEN and BRIDGESS), A., 878. Methylacetylenediureine (Seekles), A., 365.

Methylacridines, synthesis of (Jenson and Friedrich), A., 575. β-Methyladipic anhydride (FARMER and KRACOVSKI), A., 447.

Methylalkoxymethyldiethylammonium hydroxides, decomposition of (Stewart and Aston), A., 862.

Methyl n-alkyl ketones, preparation of (Tsurumi), A., 1172.

Methyl alkyl ketoximes, O-phenyl- and O-tolyl-carbamates of (Снеовсици), А., 230.

β-Methyl-α-allylvaleric acid, and its derivatives (BOEDECKER), (P.), B., 860.

m-N-Methylamidosulphonylbenzoic acid, derivatives of (Steinкорг), А., 964.

a-Methylamino-γ-benzoyl-β-phenylbutyric acid, and its copper salt and derivatives (Rupe and Heckendorn), A., 61.

1-Methylaminobenzthiazole, 5-bromo-, and its hexabromide (HUNTER and SOYKA), A., 263.

a-Methylamino-β-chlorotrimethylaminoethane, and its salts (Frankel and Nussbaum), A., 546.

a-Methylamino-aβ-dibenzoylethylene (Ballet), A., 1055. 6-Methylamino-2:4-diethoxypyrimidine (Winkelmann), A., 678.

Methylaminodiphenyl, 3-nitro-4-nitroso- (Bell and Robinson), A., 657.

Methylaminoethoxypyrimidines, chloro- (Winkelmann), A., 678. Methylaminoformyl cyanide (SLOTTA and TSCHESCHE), A., 548.

a-Methylaminoisohexoethylamide, and its salts (v. Braun and Müncii), A., 345.

 β -Methylamino- α -hydroxy- α -p-anisylpropane, and its hydrochloride (Koller), A., 240.

2-β-Methylamino-a-hydroxyethylgallic acid, derivatives of (Hins-BERG and MEYER), A., 1071.

 β - Methylamino - α - hydroxy - α - (p - hydroxy - m - methoxyphenyl)propane (Koller), A., 240.

2-Methylamino-4-hydroxypyrimidine, 6-iodo- (WINKELMANN), A.,

 β -Methylamino- α -methoxy- α -p-anisylpropane (Koller), A., 240. a-Methylaminomethylenedioxybenzylmalonic acid, ethyl ester, hydrochloride of (Rodionov and Fedorova), A., 451.

2-Methylamino-β-naphthathiazole, and its hexabromide (Dyson, HUNTER, and SOYKA), A., 263.

p-Methylaminophenol, salts of (Galatis), A., 762.

 β -Methylamino- β -piperonylpropionic acid, and its hydrochloride (Rodionov and Malevinskaja), A., 137.

a-Methylaminopropionisoamylamide (v. Braun and Münch), A., 345.

a-Methylaminopropionic acids, and their salts and hydrochloride (Ley and Temme), A., 137.

Methylaminopyrimidine, and dichloro-, and iodo-, and their salts (Winkelmann), A., 678.

5- δ -Methyl- $\Delta \gamma$ -amylidene-1:2:3:6-tetrahydropyridazine-1:2-dicarboxylic acid, methyl ester (DIELS and ALDER), A., 159.

Methylanhydrotris-o-aminobenzaldehyde (Bamberger), A., 361. Methylaniline, reaction of, with ethylene oxide (Gabel), A., 962. Methylaniline, trinitro- (APARD), A., 963.

4-Methylanilinodiphenyl, 3:2':4'-trinitro- (LE Fèvre, Mom, and Turner), A., 1062.

 ${\bf 1-Methylanilino-4:6-di-} p\hbox{-tolyl-2-methylpy} ridinium$ perchlorate (Diels and Alder), A., 465.

2-Methylanilino-6-oxy-5-methylpyrimidine-d-glucoside, tetra-acetyl derivative (HAHN and LAVES), A., 1057.

2-Methylanilino-6-oxypyrimidine tetra-acetyl-d-glucoside (HAHN and Laves), A., 1057.

9-Methylanthracene, 1:5-dichloro-, 1:5-dichloro-9-bromo-, 1:5-dichloro-9-hydroxy-, and 1:5-dichloro-10-nitro-, and their derivatives (BARNETT, COOK, and MATTHEWS), A., 140.

1-Methylanthraquinone, 5-bromo-8-hydroxy-, and 5-chloro-8hydroxy- (Hayashi), A., 1187.

2:4-dichloro, and 2:4-dihydroxy, and its diacetate (Stouder and ADAMS), A., 972.

3-Methylanthraquinone, 2-amino-, and 1-bromo-2-amino-(DRESCHER, SMITH, THOMAS, and SCOTTISH DYES), (P.), B.,

Methylanthraquinones, mono- and di-amino-, and their derivatives, and 4-bromo-1-amino-, 4-bromo-1-hydroxy-, 1-nitro-, 1-nitro-2-bromo-, and 1-nitro-2-dibromo- (Locher and Fierz), A., 1191.

polyhydroxy- (Stouder and Adams), A., 972.

2-Methylanthraquinone-1:8-disulphonic acid, and its salts (LOCHER and Fierz), A., 1191.

2-Methylanthraquinonesulphonic acid, and 1-hydroxy-, and their salts and derivatives (LOCHER and FIERZ), A., 1191.

Methylarylamines, preparation of (MERCK CHEM. FABR., MAEDER, and KRAUSS), (P.), B., 459.

Methylation, mechanism of (HANHART and INGOLD), A., 650.

3-Methylazobenzene-4'-stibinic acid, 4-hydroxy-, and its disodium salt (Dunning and Reid), A., 65.

Bz-Methylbenzanthrones, manufacture of (FAREW. VORM. MEISTER, LUCIUS, & BRÜNING), (P.), B., 326.

2-Methylbenziminazole, 4:6-dichloro-5-hydroxy-, and its hydro-chloride (Fries, Dieckmann, and Fingerling), A., 781. 4:7-dichloro-5:6-dihydroxy-, and its salts (Fries and Abdur-

RACHMAN), A., 781.

2-Methylbenziminazole-5-carboxylic acid, 7-amino-, and its derivatives, and 7-nitro- (LINDEMANN and KRAUSE), A., 469.

Methylbenziminazolone-5-arsinic acids (I. G. Farbenind. and Farbw. vorm. Meister, Lucius, & Brüning), (P.), B., 670.

N-Methylbenziminophenyl ether (Chapman), A., 874. 2-Methylbenzochromanquinones (Fieser), A., 463. 1-Methylbenzocoumaranquinones (Fieser), A., 155.

Methylbenzo-β-naphthas piropyrans (Dickinson and Heilbron), A., 884.

5-Methylbenzophenone-2'-carboxylic acid, 2:4-dichloro- (Stouder and Adams), A., 972.

2-Methyl-7:8-benzoquinoline-6:5-a-4'-methylpyrone. See 4:7-Dimethyl-\(\psi\)-benzo-1:S-isonaphthoxazone.

6-Methyl-p-benzoquinone, 2:3:5-tribromo-, 3:5-dibromo-2-iodo-, and 2-chloro-3:5-dibromo- (Kohn and Rabinovitsch), A., 967.

6-Methyl-4:5-benzo-1:2:3-triazine-1-oxide (Meisenheimer, Senn, and Zimmermann), A., 1077.

Methylbenzisooxazolone, hydroxy- (ARNDT and PARTALE), A., 361. p-Methylbenzoylformhydroxamic acid oxime (Ponzio), A., 462.

2-Methyl-6-benzoyloxymethylenecyclohexanone o-nitrobenzoyl-hydrazone (v. Auwers), A., 577.

1-Methylbenzpyrazolone hydrochloride (Stollé, Nieland, and Merkle), A., 885.

1-Methylbenzthiazole, 4-chloro- (Gebauer-Fülnege and Riesz), A., 52.

5-hydroxy- (Fries and Buchler), A., 781.

4-nitro- (FRIES, VORBRODT, and SIEBERT), A., 779.

Methylbenzthiazoles, 4-amino-1-thiol-, and its benzylidene derivative, 4-chloro-1-thiol-, and 1-thiol- (TEPPEMA and SEBRELL), A., 887.

Methylbenzthiazolebenzenyliminocamphor (Shukla), A., 1196. 2-Methylbenz-4':5'-isothiazolium salts, 5-nitro- (Fries, Eishold, and Vahlberg), A., 782.

1-Methylbenztriazole, 4-chloro-5-amino- (FRIES and MADJID), A., 779.

5-Methylbenztriazole, 7-amino-, and its acetyl derivatives, and 7-nitro- (LINDEMANN and KRAUSE), A., 469.

Methylbenzyl alcohols, action of sulphur on (SZPERL, LIBRACH, and SZPIC), A., 241.

m-Methylbenzyl ether (SZPERL and LIBRACH), A., 241.

p-Methylbenzylallylacetic acid, and its methyl ester (Darzens and Heinz), A., 243.

p-Methylbenzylallylmalonic acid, and its ethyl ester (Darzens and Heinz), A., 243.

2-Methyl-4-benzylideneiminazol-5-one-1-acetic acid, sodium salt and derivatives of (GRÄNACHER and MAILLER), A., 468.

p-Methylbenzylmalonic acid, ethyl ester (Darzens and Heinz), A., 243.

p-Methylbenzylvalerolactone (Darzens and Heinz), A., 243. N-Methyl-6-bromo-β-piperonylethylamine, and its salts and benzoyl derivative (Stevens), A., 266.

N-Methyl-N-6'-bromo-β-piperonylethyl-6-aminoethylhomopiperonylonitrile, and its salts (STEVENS), A., 266.

Methyl-ψ-brucidine, and its salts (Guiland, Perkin, and Robinson), A., 890.

Methylneobrucidinium salts (Gulland, Perkin, and Robinson), A., 890.

β-Methylbutaldehyde, α-bromo- (KIRRMANN), A., 442. γ-Methylbutane, ααβ-tribromo- (KIRRMANN), A., 442.

 $\beta\beta$ -chloronitroso- (Rheinboldt and Dewald), A., 852.

Metbylbutane- $a\beta$ -diols, isopropylidene ethers from (Böeseken), A., 39.

 β -Methyl- $\Delta\beta$ -butene, formation and decomposition of (Norris and Reuter), A., 1165.

y-Methyl-1a-butene, polymeride of (Norris and Reuter), A., 1165.

Methyl-40-butenes, oxidation derivatives of (BÖESEKEN), A., 39.

 β -Methyl- $\Delta\beta$ -butene oxide, action of, on benzylamine (Gabel), A., 1179.

2-y-Methyl-Δβ-butenoxy-α-naphthaquinone (FIESER), A., 462. Methyl-α-butyl-n-amyl ketoxime (Billon), A., 879.

5-α-Methylbutylbarbituric acid (RIEDEL), (P.), B., 237.

5-a-Methylbutyl-5-β-bromo-Δβ-propenylbarbituric acid (RIEDEL), B., (P.), 237.

Methylbutylcarbinol, trichloro-, and its salts (HOWARD), A., 539. a-Methylbutylmalonic acid, diethyl ester (RIEDEL), (P.), B., 237.

β-Methyl-β-isobutylpropane (EDGAR), B., 514. β-Methylbutyric acid, and a-bromo-, esters of (Skraup and

Beng), A., 560.

3-Methylcæramidone. Sec 2-Methylketomethylene-5-phenyl-

acridine.

Methylcarbamic acid, methyl ester (SLOTTA and TSCHESCHE),

A., 548. 5-a-Methylcarbamido-3-methyl-2-glyoxalidones, 4:5-dihydroxy-

(BILTZ, KRZIKALLA, and SLOTTA), A., 1092. 1-Methylcarbamyl-3-ethylhydantoin, and its sodium salt and

nitro-derivative (BILTZ and HEIDRICH), A., 1094.

1-Methylcarbamylhydantoin, and its sodium salt (BILTZ, KRZI-

KALLA, and SLOTTA; BILTZ and HEIDRICH, A., 1093.

1-Methylcarbamyl-3-methylhydanton, and its methyl ether (Biltz,

I-Methylcarbamyl-3-methylnydantoin, and its methyl ether (Biltz, Krzikalla, and Slotta), A., 1093; (Biltz and Heidrich), A., 1094.

9-Methylcarbazole-3-arsenious chloride and oxide (Burton and Gibson), A., 1098.

9-Methylcarbazole-3-arsinic acid, and its reduction products (Burton and Gibson), A., 1098.

9-Methylcarbazole-3-azo-β-naphthol (Burton and Gibson), A., 1098.

Methylcarbimide, transformations of (SLOTTA and TSCHESCHE), A., 346, 548.

5-Methylcarbonato-orcylaldehyde 3-methyl ether (HIRST), A., 1189.
10-Methyl-10-carboxymethylphenoxarsonium bromide (AESCHLIMANN), A., 368.

Methylchloromalondiphenylamide, chloro- (NAIK and Shaii), A., 758.

Methylchloromalonditolylamides, chloro-(NAIK and SHAH), A., 758.

Methylchloromethoxyethylmaleinimide (KÜSTER and SCHLAYER),
A., 980.

4-Methyl-2-coumaranone, benzylidene derivative, salts and dibromide of (Feist and Siebenlist), A., 671.

7-Methylcoumaran-3-one, 2-isonitroso- (Mamell), A., 163.

3-Methylcoumarin, 4-hydroxy-, and its methyl ether (Heilbron and Hill), A., 974.

5-β'-Methylcrotonyl-2-β-methyl-Δα-propenylpyridine, and its salts (Benary), A., 573.

Methyldicyanoarsine (Grischrevitsch-Trochimovski, Mateyak, and Zablotski), A., 1210.

β-Methyldecane-ακ-dicarboxylic acid, and its esters (Chuit, Boelsing, and Malet), A., 446.

γ-Methyldecane-aκ-dicarboxylic acid, and its ethyl ester (Ruzicka), A., 1170.

9-Methyl-4:4'-dibenzanthronyl (I. G. Farbenind.), (P.), B., 903. 3-Methylspirodibenzopyran (De), A., 773.

3-Methylspirodibenzopyran (DE), A., 773. and 7:7'-dihydroxy- (DE), A., 974.

4-Methyl-2:3:7:8-dibenzpyrene-1:6-quinone, 10-hydroxy-, and its methyl ether (I. G. Farbenind.), (P.), B., 870.

β-Methyl-aa-dibenzylethanol, β-amino-, derivatives of (Bett-zieche, Menger, and Wolf), A., 45.

8 - (Methyl - \beta - diethylaminoethylamino) - 6 - methoxy - 2 - methylquinoline (Farberfabr. vorm. Bayer & Co.), (P.), B., 379.

m-(Methyl-p-diethylaminoethyl)aminophenol (Farbenfabr. vorm. Bayer & Co.), (P.), B., 379.

Methyl- $(\beta$ -diethylaminoethyl)aniline (Farbenfabr. vorm. Bayer & Co.), (P.), B., 379.

Methyl β -diethylaminoethyl ketone cyanohydrin (I. G. Farben-IND.), (P.), B., 429.

5-Methyl-3:3-diethyl-1-n-butyl-2-pyrrolidone (RAMART and FASAL), A., 672.

9-Methyl-9:10-dihydroanthracene, 1:5-dichloro-9:10-ω-tribromo-, and 1:5-dichloro-9-hydroxy- (Barnett, Cook, and Matthews), A., 140.

Methyl-42.6-dihydrobenzoic acid, 2-hydroxy-, and its silver salt (Mazza and Calò), A., 665.

6-Methyl-1:2-dihydrobenzoxazoloue, 4-amino- and 4-nitro- (Cassella & Co.), (P.), B., 125.

6-Methyl-1:2-dihydrobenzoxazolone-4-arsinic acid (Cassella & Co.), (P.), B., 125.

Methyl-42:6-dihydrobeuzphenylhydrazide, 2-hydroxy- (Mazza and Cald), A., 665.

Methyl-\(\psi\)-dihydrobrucidine, and its dihydriodide (Gulland, Perkin, and Robinson), A., 890.

Methylneodihydrobrucidinium salts (Gulland, Perkin, and

Robinson), A., 890. 7-Methyl-2:3-dihydroindole, and its salts and derivatives (KRUBER),

A., 158.

7-Methyl-2:3-dihydroindole-3-carboxylic acid (Kruber), A., 158. Methyl-5:6-dihydro-α-naphthacridine, 7-amino-, and 7-hydroxy-, and their hydrochlorides (v. Braun and Jungmann), A., 248.

10-Methyl-5:10-dihydrophenarsazine, and its derivatives (AESCH-LIMANN), A., 368.

Methyl-5:10-dihydrophenarsazines, 10-bromo-, and 10-chloro-

(Gieson and Johnson), A., 1210. Methyl-42:6-dihydrophthalide (Berlingozzi, Mennonna, and

PALMA), A., 560.

Methyldihydrostrychnidine (Oxford, Perkin, and Robinson), A., 1209.

Methyl- ψ -dihydrostrychnidine, and its salts (Clemo, Perkin, and Robinson), A., 889.

Methylneodihydrostrychnidinium salts (Clemo, Perkin, and Robinson), A., 889.

Methyl-2:4-diketo-1:3-benzoxazines, and their salts (Mamell), A., 163.

1-Methyldiketomethylene-5-phenylacridine (Weiss and Knapp), A., 259. Methyl-5:6-dimethoxybenzhydrazide, 2-hydroxy- (Tasman), A.,

Methyl β -dimethylaminoethyl ketone, derivatives of (I. G. Farben-

IND.), (P.), B., 429. Methyl y-dimethylaminopropyl ketone (Farbenfabr. vorm. Bayer

& Co.), (P.), B., 379.

Methyl β -dimethylaminoisopropyl ketone, and its eyanohydrin (I. G. FARBENIND.), (P.), B., 429.

3-Methylspirodinaphthapyran (DE), A., 773, 974.

4'-Methyldiphenylamiue, 5-cbloro-2:4-dinitro- (Fries, Modrow, RAEKE, and WEBER), A., 780.

Methyldiphenylaminearsinic acids (Gibson and Johnson), A., 1210.

4-Methyl-2:6-di-n-propylcyclobexanone, and its derivatives (Cornu-BERT and LE BIHAN), A., 1075.

a-Methyldistyryl ketone, 3:3'-di- and 3:4:3':4'-tetra-hydroxy-(IWAMOTO), A., 566.

β-Methyldodecane, aμ-dibromo-, and its diacetate (Chuit, Boel-SING, and MALET), A., 446.

β-Methyldodecane-aμ-dicarboxylic acid, derivatives of (Chult, Boelsing, and Malet), A., 446.

Methyldodecane-αμ-dicarboxylic acids (Ruzicka), A., 57, 1170. Methyldodecane-aμ-diols (Chuit, Boelsing, and Malet), A., 446. Methyleneaeetophenone, hydroxy-, derivatives of (v. Auwers and Mauss), A., 362.

Methyleneacetoveratrone, and its copper derivative (PRATT, Robertson, and Robinson), A., 1083.

Methylene-aldehydes, hydroxy- (Ruff and Knup), A., 564. Methyleneanhydrobisdiketohydrindene (Ionescu), A., 669.

Methylenebisbenzoylpyruvic acid, ethyl ester, and its derivatives (GAULT and FUNKE), A., 561.

Methylenebis-3-indone-1-carboxylic acid, and its sodium salt and derivatives (GAULT and FUNKE), A., 561.

Methylene-blue, action of, on sensitivity and fogging of photographie plates (Souтнwortи), А., 764.

subsidiary dyes in (IRWIN; HOLMES), A., 907. iodometric evaluation of (Holmes), B., 955.

Methylenediacetylcarbamide (DIELS and LICHTE), A., 162.

Methylenediacetylthiocarbamide (DIELS and LICHTE), A., 162. Methylenedibenzisooxazolone (ARNDT and PARTALE), A., 360.

Methylene dicarbamide (Diels and Lichte), A., 162. Methylene - 9:10 - dihydroanthracene, 1:5 - dichloro - 10 - bromo -9-bromo-, and its derivatives (BARNETT, COOK, and MATTHEWS), A., 140.

Methylenedihydropapaverine, and its methiodide (Späth and Polgar), A., 163.

Methylenedi-indone (Ionescu and Georgescu), A., 880.

Methylenediketohydrindenylidenebisanhydrobisdiketohydrindene (Ionescu), A., 669.

(Ionescu and Metbylenediketohydrindenylidenebisdi-indone Georgescu), A., 880.

Methylenediketohydrindenylidenediketohydrindenedi-indone (Ion-ESCU and GEORGESCU), A., 880.

Methylenedioxy-groups, fission of (Späth and Quietensky),

2:3-Methylenedioxybenzaldehyde. See o.Piperonal.

2:3-Methylenedioxybenzamide (Perkin and Trikojus), A., 56. 3:4-Methylenedioxybenz-1:2-dicarbonethylimide (Späth HOLTER), A., 1097.

4:5-Methylenedioxybenzene-1:2:3-tricarboxylic acid (KITASATO), A., 1095.

2:3-Methylenedioxybenzenylamino-oxime (Perkin and Trikojus), A., 56.

2:3-Methylenedioxybenzoic acid. See o-Piperonylic acid.

2:3-Methylenedioxybenzonitrile (Perkin and Trikojus), A., 56. 3:4-Methylenedioxybenzoylaeetic acid, ethyl ester, and its pyrazolone derivative (Mauthner), A., 972.

Methylenedioxybenzylmalonic acid, a-amino-, ethyl ester hydrochloride (Rodionov and Fedorova), A., 451.

6:7-Methylenedioxy-1-benzylisoquinoline, (MANNICH and WAL-THER), A., 579.

2:3-Methylenedioxycinnamie acid (Perkin and Trikojus), A., 56. Methylenedioxyflavanone (HATTORI), A., 883.

3':4'-Methylenedioxyflavone (HATTORI), A., 883.

3':4'-Methylenedioxyflavonol, and its methyl ether (Hattori),

6:7 - Methylenedioxy - 1 - p - hydroxy - m - methoxybenz oyl - 1:2:3:4tetrahydroisoquinoline, and its ethyl ether (KITASATO), A., 1095.

6:7-Methylenedioxy-3-methylquinoline, and its salts (Williamott and Simpson), A., 256.

6:7-Methylenedioxy-1-nitromethyl-2-piperonylmethyl-1:2:3:4-tetrahydroisoquinoline (Malan and Robinson), A., 1200.

2 - Methylenedioxyphenyl - 6 - p - acetamidophenylquinoline-4-carboxylic acid (Berlingozzi and Turco), A., 674.

3':4' - Methylenedioxyphenylaeeto - β - 2:3 - dimethoxyphenylethylamide, 6'-bromo- (HAWORTH), A., 1085.

3:4-Methylenedioxyphenylacetonitrile (Piutti and Mazza), A., 1072.

a-3:4-Methylenedioxyphenylethyl methyl ether, β-nitro- (Mannich and Walther), A., 579.

β-Methylenedioxyphenylethylaminoacetic acid hydrochloride (v. Braun and Wirz), A., 254.

 β -3:4-Methylenedioxyphenyl- β -methoxyethylamine, and its hydrochloride and benzoyl derivative (MANNICH and WALTHER), A., 579.

 α -3:4-Methylenedioxyphenyl- β -piperidinopropan- α -ol, and its salts (Krassusky, Stepanov, Kossenko, and Kussner), A., 546.

6:7-Methylenedioxy-1-phenylisoquinoline, and its derivatives (MANNICH and WALTHER), A., 579.

4:5-Methylenedioxyphenyl-3:4:5-trimethoxystyryl ketone (Mauth-NER), A., 972.

3:4-Methylenedioxyphthalide (Perkin and Trikojus), A., 56. 6:7-Methylenedioxy-2-piperonylmethyl-3:4-dihydroisoquinoline,

salts and cyano-derivative of (Malan and Robinson), A., 1200. 6:7-Methylenedioxyprotopapaverine. See 6:7-Methylenedioxy-1benzylisoquinoline.

3':4'-Methylenedioxystilbene, 2:4-dinitro- (NISBET), A., 1063. 3-3':4'-Methylenedioxystyryl-β-naphthapyrylium chloride (Dickinson and Heilbron), A., 252.

3:4-Methylenedioxystyrylphthalamic acid (Mannich and Wal-THER), A., 562.

3:4-Methylenedioxystyrylphthalimide (Mannich and Walther), A., 562.

6:7-Methylenedioxytetrahydroprotopapaverine (KITASATO), A., 1095.

3:4-Methylenedioxytoluene, ω-chloro-ω-nitroso-Dewald, Jansen, and Schmitz-Dumont), A., 245. (RHEINBOLDT.

Methylenedisalicylformic acid (v. Braun and Brauns), A., 258. Methylenehydrindone (Rupe and Wieland), A., 58.

Methylene ketones, hydroxy-, reaction of, with hydrazines (Auwers and Mauss), A., 361.

formation of pyridine and piperidine derivatives from

(Benary), A., 573. Methylenemesityl oxide, hydroxy-. See γ-Keto-ε-methyl-Δαδ-

hexadien-a-ol. Methylencphenylacetaldehyde, hydroxy-, and hydroxyamino-, and

their copper salt and derivatives (RUPE and KNUP), A., 564. Methylenephenylacetaldimine, hydroxy- (Rupe and Knup), A., 564.

Methylenedithiocarbamide (DIELS and LICHTE), A., 162. l-Methylephedrine, and its salts (SMITH), A., 1094. d-ψ-Methylephedrine, and its salts (SMITH), A., 1094.

A., 1170.

β-Methyl-β-ethylacraldehyde, and its semicarbazone (Ruffe), (P.), B., 572.

5-Methyl-1-othylbenzpyrazolone (Stollé, Nieland, and Merkle), A., 1203.

7-Methyl-1-ethylbenzpyrazolone (Stollé, Nieland, and Merkle), A., 886.

d-Methylethylcarbinol, and its phenylcarbamate (Levene and Haller), A., 1053.

10-Methyl-10-ethyl-5:10-dihydrophenarsazine (Aeschelmann), A.,

as-Methylethylene glycol derivatives, action of phosphorus pentachloride on (Sever and Chalmers), A., 442.

 $\beta \bar{\beta}$ -Methylethylglutarimide (Sircar), A., 451.

2-Methyl-1-ethylglyoxaline, 5-chloro-4-nitro- (Montequi), A., 469. 5-cyano-4-amino-, and its hydrochloride (Montequi), A., 979.

2-Methyl-1-ethylglyoxaline-5-carboxylamide, 4-amino-, and its hydrochloride and 4-nitro- (Montequi), A., 469.

-Methyl-γ-ethylheptane, γδ-imino- (Theunis), A., 653.

δ-Methyl-y-ethyl-48-hexen-β-one, and its semicarbazones (Kox and NARAYANAN), A., 873.

Methyl ethyl ketone, equilibrium of sodium iodide with (WADS-WORTH and DAWSON), A., 22.

condensation of, with phenolic aldehydes (IWAMOTO), A., 566. 8-anilinosemicarbazide (BAIRD and WILSON), A., 1063.

determination of, in presence of sec.-butyl alcohol (Cassar), A.,

Methylethylnaphthalene, and its salts (Ruzicka, Steiger, and Schinz), A., 60.

Methylethylparaconic acid, and its silver salt (Sircar), A., 756. β-Methyl-a-ethylpentenoic acids, and their salts and derivatives (Kon and Narayanan), A., 873.

1-Methyl-1-ethylcyclopropane-2-carboxylamide, 2:3-dicyano- (Sir-CAR), A., 756.

5-Methyl-2-ethyl-2-isopropenylcyclohexanone, and its semicarbazone (Kon and Nutland), A., 153.

5-Methyl-2-ethyl-2-isopropenylcyclopentanone, and its derivatives (Kon and Nutland), A., 153.

6-Methyl-3-ethylpyridine, 2-amino-, chloroiodide hydrochloride (CHEM. FABR. VORM. SCHERING), (P.), B., 572.

as-Methylethylsuccinimide (SIRCAR), A., 756.

 β -Methyl-a-ethylvaleric acid, β -hydroxy-, and its silver salt (Kon and Narayanan), A., 873.

8-Methyl-7-ethylxanthine (Montequi), A., 469, 979.

9-Methylfluorenol, and its salts and ethyl ether (WIELAND and CEREZO), A., 1183.

Methylformanilide, action of phosphoryl chloride on (Vilsmeier and Haack), A., 245.

Methylfuran, 2-iodo. See α-Furfuryl iodide.

Methylfuran-1-carboxyl chloride. See Methylpyromucyl chloride. 5-Methylfuran-2-carboxylic acid, ω-hydroxy- (Haworth, Hirst, and Nicholson), A., 859.

Methylfurfuraldehyde, 5-hydroxy- (Blanksma), A., 250.

d- β -Methylglucoside, transformation of, to d- α -methylglucoside, and its 6-chlorohydriu (Helferich and Schneidmüller), A.,

y-Methylglucoside, action of enzymes on (Kuiin and Wagner-JAUREGG), A., 173.

β-Methylglutarimide-β-butyric acid (FARMER and Ross), A., 148. Methylglyoxal from decomposition of dextrose (Toenniessen and Fischer), A., 174.

conversion of, into lactic acid by bacteria (Neuberg and Simon), A., 903.

by enzyme action (Kuhn and Heckscher), A., 74.

action of, on carbamide (Seekles), A., 365. action of oxydo-reductase on (Lebedev), A., 76.

osazones (Vorländer, Zeh, and Enderlein), A., 554.

Methylglyoxalinecarboxylic acid, and its ethyl ester, and their gold and mercury derivatives (BALABAN and KING), A., 977.

Methylglyoxaline-2-sulphinic acid, 2-thiol- (Balaban and King),

Methylglyoxaline-2-sulphonic acid, 2-thiol-, and its salts (Balaban and KING), A., 978.

Methylglyoxylidenedianisidine (Vörlander, Zeh, and Ender-LEIN), A., 554.

Methylglyoxylidenediphenetidine (Vörlander, Zeh, and Ender-LEIN), A., 554.

N-Methylgranatoline oxide, and its salts (Polonovski and Polo-NOVSKI), A., 367, 1208.

Methylguanidine, preparation of (Philippi and Morson), A., 1175. Methylguanidine, nitro- (Davis and Luce), A., 1059.

Methylharmaline, bromo-, and its hydriodide (HASENFRATZ), A.,

Methylharmines, mono- and di-bromo-, and iodo- and their salts (HASENFRATZ), A., 682.

a-Methylheptadecenoic acid, and its methyl ester (Chuit, Boel-SING, HAUSSER, and MALET), A., 446.

6-Methylhexahydrocarbazole, and its picrate and nitroso-derivative (Manjúnatii), A., 978.

9-Methylhexahydrocarbazole, 5-nitro- (Gurney and Plant), A.,

6-Methylhexahydro-1:3:5-triazine, 4-amino-2-hydroxy-. See Acetoguanide.

4-Methylhexahydro-1:2-pyridazine-1:2-dicarbamidoacetic 4:5-dibromo-, ethyl ester (DIELS and ALDER), A., 159.

Methylhexalin, determination of, in presence of tetralin (LINDNER and Zickermann), B., 713.

Methylcyclohexane, inflammability of, and its mixtures with ethyl alcohol and ethyl ether (TANAKA, NAGAI, and AKIYAMA), A., 834. y-Methylhexane-aζ-dicarboxylic acid, and its ethyl ester (Ruzicka),

4-Methyl-5-cyclohexanespirocyclopentan-3-one-1-carboxylic and its semicarbazone (INCOLD and SEELEY), A., 877.

4-Methyl-5-cyclohexanespiro-(0:1:2)-dicyclopentan-3-one-1:2-dicarboxylic acid, 2-bromo- (INGOLD and SEELEY), A., 877.

4-Methyl-5-cyclohexanespiro-(0:1:2)-dicyclopenten-3-ol-1:2-dicarboxylic acid, and its anhydride (INGOLD and SEELEY), A., S77.

4- Methyl-5-cyclohexanespiro-\(\Delta^1\)-cyclopenten-3-one-1:2:4-tricarboxylic acid, methyl ethyl hydrogen ester (Ingold and Seeley), A., 877.

δ-Methylhexan- β -one semicarbazone (Chavanne), A., 452.

1-Methylcyclohexan-2-one, alkylation of (HALLER and CORNUBERT), A., 666.

Methylcyclohexanones, δ -d-n- and neo-bornylsemicarbazones of (Goodson), A., 1082.

Methylcyclohexanones, trithio-, and their sulphide-disulphones (Fromm), А., 1189.

1-Methylcyclohexan-3-one-1-cyanoacetic acid, and its derivatives (FARMER and Ross), A., 148.

1-Methylcyclohexan-3-onc-1-malonamic acid (FARMER and Ross), A., 148.

Methyl- $\Delta^{1:6}$ -cyclohexenecarboxylic acid, and its silver salt, and ω-chloro-, chloride (MAZZA and Calò), A., 665. γ-Methyl-Δ-hexene-β-dicarboxylic acid, β-cyano-, methyl ethyl

ester (FARMER and HEALY), A., 647.

2-Methyl-2-\(\Delta^1\)-cyclohexeuylcyclohexanone, and its semicarbazone (Kon and Nutland), A., 153.

1-Methylcyclohexenylidene-3-cyanoacetic acid, and its methyl

ester (Farmer and Ross), A., 148.

a- and β -Methylhexosidediphosphoric acids (Morgan), A., 749. 3- and 4-Methylcyclohexyl benzyl ethers (Senderens and Abou-

LENC), A., 51. 2-Methylcyclohexylaniline (I. G. FARBENIND, and FARBW, VORM. Meister, Lucius, & Brüning), (P.), B., 809.

-Methyl-8:9-(1':2'-cyclohexyl)tetrahydrocarbazole, and its picrate (MANJUNATH), A., 979.

Methylhomopiperonylic acid, 6-bromo-, and 6-hydroxy-, and their derivatives (Stevens), A., 265.

8-Methyl-as-homotetrahydroisoquinoline, and its hydrochloride and derivatives (v. BRAUN and WIRZ), A., 254.

2-Methylhydantoinohydantoin (Biltz, Krzikalla, and Slotta), A., 1093.

Methylhydrastine, derivatives of (OBERLIN), A., 681.

Methylhydrastinine, condensations with (OBERLIN), A., 681. preparation of pharmaceutical intermediates from (Merck, CHEM. FABR., OBERLIN, and MAEDER), (P.), B., 572

Methyl- $\alpha\beta$ -dihydroxyethylfumaric acid, dilactone of (Küster), A.,

2-Methyl-1-hydroxyethyl-3-morpholone, and its chloroplatinate (KIPRIANOV), A., 343.

Methylhydroxyglyoxime, salts of (Ponzio), A., 134.

Methyl-a-hydroxy- β -p-hydroxyphenylethylamine hydrochloride. See Sympathol.

N-Methylhydroxylamine salts (LINDEMANN and TSCHANG), A.,

2-Methyl-6-hydroxymethylenecyclohexanone o-nitrobenzoylhydrazone (v. Auwers), A., 577. Methyl-4-hydroxymethylpyrrole-3:5-dicarboxylic acid, and 2-di-

bromo-, ethyl esters and their derivatives (FISCHER, TRIEBS, HALBIG, and WALACH), A., 1207.

Methyl 2-hydroxynaphthyl ketoxime, and its acetates (Lindemann, Könitzer, and Romanoff), A., 980.

2-Methylimino-4:6-diketo-3:5-dimethyl-1:3:5-oxadiazine and Tschesche), A., 346.

- 2-Methylimiuo-6-hydroxy-4-keto-6-phenyl-3:5-dimethyl-1:3:5-oxadiazine, and its derivatives (SLOTTA and TSCHESCHE), A., 579. 2-Methylimino-4-keto-3:5-dimethyl-6-acetylmethylene-1:3:5-oxadi-
- azine, and its derivatives (SLOTTA and TSOMESCHE), A., 578. 2-Methylimino-4-keto-3:5-dimethyl-6-ethylidene-1:3:5-oxadiazine,
- and its salts and derivatives (SLOTTA and TSCHESCHE), A., 578. 2-Methylimino-4-keto-3:5-dimethyl-6-ethyl-1:3:5-oxadiazine,

its tribromide (SLOTTA and TSCHESCHE), A., 579.

- 2-Methylimino-4-keto-3:5-dimethyl-6-ethyl-1:3:5-oxadiazine-6acetic acid, and its esters (SLOTTA and TSCHESCHE), A., 579.
- 2 Methylimino 4 keto 3:5 dimethyl 6 methylene-1:3:5-oxadiazine, and its perchlorate and derivatives (Slotta and Tsche-SCILE), A., 578.
- 2-Methylindazole, 5-nitro-, and its derivatives (FRIES and TAMPKE), A., 783.
- Methylindazoles, 6-amino-, and 6-hydroxy- (v. Auwers and **ДЕМИТП)**, А., 260.

7-Methylindole, and its picrate (KRUBER), A., 158.

- 2-Methylindole-3-carboxylic acid, nitrile of (Passerini and Grulis), A., 149.
- Methylindoleearboxylic acids (KRUBER), A., 157.
- 2-Methylindole-3-dithiocarbonic acid, and its salts and disulphide (Oddo and Mingola), A., 158.

2-Methylindolizine (TSCHITSCHIBABIN), A., 885.

- Methylindoxazens, hydroxy-, and their derivatives (LINDEMANN, Könitzer, and Romanoff), A., 980.
- 2 Methylindoxazen 4-azo 2' aminonaphthalene (Lindemann, KÖNITZER, and ROMANOFF), A., 980.
- 7-Methyl-ψ-indoxylspirocyclohexane, 10-nitro- (Betts, Muspratt, and Plant), A., 765.
- Methylketen diethylacetal (Scheibler, Marhenkel, and Niko-LIĆ), A., 1168.
- 2-Methylketomethylene-5-phenylacridine (Weiss and Knapp), A., 259.
- Methylmalonamides, substituted, action of sulphur dichloride on (Naik and Jadhav), A., 444.

a-Methylmargaric acid (Morgan and Holmes), A., 539.

- Methylmercapto-compounds, refractometry of (Brand and KRANZ), A., 555.
- Methylmercuric halides and hydroxide (HINKEL and ANGEL), A., 962.
- N-Methyl-p-methoxybenzaldimine (KINDLER), A., 759.
- a-Methylmethoxy-1-naphthaldoximes, and their hydrate (Brady and Goldstein), A., 970.
- 2-Methyl-8-methoxyquinazoline, and its salts (Tröger and Sabewa), A., 1090.
- Methyl α-methylmargaryl ketone (Morgan and Holmes), A., 540. 2-Methylnaphthalene, 8-bromo-1-nitro- (Vesely and Rein), A.,
- Methylnaphthalenes, action of oxalyl chloride on (Lesser and Gad), A., 247.
- Methylnaphthalenes, chloro- (I. G. FARBENIND.), (P.), B., 518. 5-Methyl-α-naphthaquinone (Herzenberg, Ruhemann, and Wichterich), A., 551.
- 1-Methylnaphthoxazole, and its hydrochloride (LINDEMANN, KÖNITZER, and ROMANOFF), A., 981.
- 7-Methyl- ψ -1:8-isonaphthoxazone, and its salts and derivatives (DEY, SARKAR, and SESHADRI), A., 63.
- 2-Methylnaphthylamines, 8-bromo-, and 1-nitro- and its acetyl
- derivative (VESELY and REIN), A., 757. 4-Methyl-1:8-naphthyridine, 7-amino-2-hydroxy-, and its hydrochloride, 2:7-dichloro-, and 2:7-dihydroxy-, and its sodium salt (Seide), A., 63.
- β-O-Methyl-6-nitropiperonaldoxime (Brady and Klein), A., 563. β-Methylnonane-αι-dicarboxylic acid, and its dimethyl ester (CHUIT, BOELSING, and MALET), A., 446.
- a-Methylpalmitic acid (Morgan and Holmes), A., 539.

Methylcyclopentadecane (Ruzicka), A., 57.

- a-Methylpentadecanecarboxylic acid, o-hydroxy- (Churr, Boel-SING, and MALET), A., 447.
- 3- and 4-Methylcyclopentadecanol (Ruzicka), A., 57.
- γ-Methylpentadecenoic acid, methyl ester (Chuit, Boelsing, HAUSSER, and MALET), A., 446.
- δ-Methyl-1/2-pentadecenol (CHUIT, BOELSING, HAUSSER, and Malet), A., 446.
- a-Methylpentadecoic acid (Morgan and Holmes), A., 539.

- δ -Methylpentane, $\beta\beta$ -chloronitro-, and $\beta\beta$ -chloronitroso- (Rhein-BOLDT and DEWALD), A., 852.
- 1-Methylcyclopentan-2-one, alkylation of (HALLER and CORNU-BERT), A., 152.
- 3-Methylcyclopentanone, reduction of (Zelinski, Titz, and FATEJEV), A., 47.

a-Methyl-Aa-pentenamides (MACQ), A., 653.

- cis- and trans-Methyl-\(\Delta_a\)-pentenonitriles (MACQ), A., 653.
- δ-Methyl-Δα-pentinen-γ-ol, and its silver derivative (Krestinski and Marjin), A., 1052.
- Methylpentoses, detection of, as methylfurfuraldehyde (Votoček and Rác), A., 688.
- cis- and trans-Methylphenacylphenyldithiocarbazinic acids, derivatives of (Bose), A., 64.
- Methylphenarsazinic acids, and their derivatives (Gibson and JOHNSON), A., 1210.
- 10-Methylphenoxarsine, and its dihydroxide (Aeschelmann), A.,
- m-Methylphenoxyacetic acid (Behagnel), A., 149.

Methylphenyl. See Tolyl.

- Methyl- β -phenylethylaminoacetic acid, and its derivatives (v. Braun and Wirz), A., 254.
- N-Methylphenylethylglycine, and its derivatives (RIEDEL), (P.), B., 286.
- 2-(4-Methylphenyl)-1:2-naphthatriazoles, amino- (I. G. FARBEN-IND.), (P.), B., 275.
- 2-Methylphenylthioglycollic acid, chloro- (Soc. CHEM. IND. IN Basle), (P.), B., 360.
- N-Methyl-5:6-(2'-phenyltriazolo)-2-quinoline (FRIES and MADJID), A., 779.
- -Methylphthalide, ő-cyano- (Tasman), A., 1186.
- 1-Methylpiperidine, 4-hydroxy-, salts of (MILLS, PARKIN, and WARD), A., 1199.
- N-Methyl-N- β -piperonylethyl- δ -aminomethylhomopiperonylic acid. and its derivatives (STEVENS), A., 266.
- Methyl a-piperonylidene-ethyl ketone, and its oxime (O'Donoghue, RYAN, and KEANE), A., 462.
- Methylpolymethylenedicarboxylic acids (Ruzicka, Steiger, and STOLL), A., 1170.
- Methylporphyroxine, and its salts and derivatives (RAKSHIT), A., 64.
- a-Methylpropanesulphonic acids, salts of (Evans, Marbott, and Turner), A., 645.
- 3-Methyl-A2-cyclopropene-1:2-dicarboxylic acid, constitution of esters of (Sugden and Wilkins), A., 244. 2-a-Methyl-Δβ-propenyl-a-naphthaquinone, 3-hydroxy- (FIESER),
- A., 463. 6-Methyl-3-isopropylbenzophenone, 4-hydroxy-, and its acctate
- (ORNDORFF and LACEY), A., 457. Methylisopropylcarbinol, trichloro-, and its salts (Howard), A.,
- 539.
- β-Methyl-a-isopropylcrotononitrile (Macq), A., 653.
- 9-Methyl-3-isopropyldecahydronaphthalen-5-one, 3-hydroxy-, and its semicarbazone (Ruzicka and Capto), A., 569.

 β -Methyl- γ -isopropylhexan- γ -ol (Stas), A., 46.

- 4-Methyl-2-n-propylcyclohexanone, derivatives of (Cornubert and LE BIHAN), A., 1075.
- 3-Methyl-6-isopropylcyclohexyl benzyl ether (Senderens and ABOULENC), A., 51.
- 2-Methyl-5-isopropylcyclohexylideneacetaldehyde, and its semicarbazone (Rupe), (P.), B., 572.
- Methyl n-propyl ketone, condensation of, with acetaldehyde
- (COLONGE), A., 449. 2-Methyl-5-isopropylphenyl ethyl ketone, 4-hydroxy-, and its oxime
- (Rosenmund and Schulz), A., 667. 2-Methyl-5-isopropylphenyl methyl ketone, 4-hydroxy-, and
- its benzylidene derivative (ROSENMUND and SCHULZ), A., 667. 2-Methyl-5-isopropylphenyl phenyl ketone, 4-hydroxy-, and its
- oxime (Rosenmund and Schulz), A., 667. 2-Methyl-5-isopropylphenyl propyl ketones, 4-hydroxy-, and their
- oximes (Rosenmund and Schulz), A., 667.
- O-Methylpsychotrine picrate (Brindley and Pyman), A., 682. See 2:5-Dimethyl-2-isopropenylcyclo-2-Methylisopulegone. hexanone.
- 3(5)-Methylpyrazole, 4-chloro-, and its picrate and derivatives (v. Auwers and Bahr), A., 677.
- 5-Methylpyrazoline-1-carboxylic acid, methyl ester and amide (v. Auwers and Heimke), A., 1203.
- 4-Methylpyrazol-5-one (v. Auwers and Bahr), A., 678.

4-Methylpyridine, 3-amino-, and its acetyl and benzoyl derivatives, and 3-nitro-, and their salts (Koenigs and Fulde), A.,

Methylpyridonemethylamine methiodide (Tschitschibabin and Konovalova), A., 466.

2-Methylpyrindole, and its salts (Koenigs and Fulde), A., 1205. Methylpyromucic acid, hydroxy-, and its acid chloride (KARA-SIIIMA), A., 1107.

Methylpyromucylglycine, hydroxy- (Karashima), A., 1107.

5-Methylpyrrole-4-carboxyanilide, 3-hydroxy-(Benary Kerckhoff), A., 45.

3-Methylquinol, 2:6-dibromo-, diacetate (Kohn and Sussmann), A., 966.

2-Methylquinoline, condensation of, with m-nitrobenzaldehyde (TAYLOR and WOODHOUSE), A., 257.

additive compound of carbon suboxide with (DIELS and Hansen), A., 41.

2-Methylquinoline, chloro-, and its salts (WYLER), A., 365.

3-Methylquinoline, and its salts, synthesis of (Willimott and Simpson), A., 256.

2-Methylquinoline-3-arsinic acid (BINZ and Räth), A., 580.

4-(2'-Methylquinoline-3'-azo)-3-hydroxy-2-methylquinoline (Ber-LINGOZZI), A., 675.

2-Methylquinolino-6:5-α-pyrone. See 7-Methyl-ψ-1:8-isonaphthoxazone.

1-Methyl-2-quinolone-4-carboxylic acid, methyl ester (Aesculi-MANN), A., 256.

Methylquinolyl-5- β -acrylic acids, 6-hydroxy-, and their salts and derivatives (DEY and SESHADRI), A., 977.

Methylquinolyl-5-ethylenes, 6-hydroxy-, and their hydrochloride (DEY and SESHADRI), A., 977.

Methylsaccharin, C-hydroxy-, and its hydrochloride and dibenzoyl derivative (Oddo and Mingola), A., 874.

O-Methylsalicoylcarbamide. See o-Anisoylcarbamide. a-Methylstearic acid (Morgan and Holmes), A., 539.

Methyl-ψ-strychnidine, and its salts (Clemo, Perkin, and Robin-

son), A., 888.

Methylstrychnidinium hydrogen carbonate (CLEMO, PERKIN, and Robinson), A., 889.

Methylneostrychnidinium salts (CLEMO, PERKIN, and ROBINSON), A., 889.

a-Methylstyryl methyl ketone, p-hydroxy-, and its derivatives (IWAMOTO), A., 566.

Methylsulphinic acid, trichloro-, salts of (Battegay and Kern), A., 228.

Methylsulphonyl chloride, trichloro- (Battegay and Kern), A., 228.

Methylsulphonylbenzene-2:4-disulphonyl chloride (Pollak, Deut-SCHER, and KRAUSS), A., 866.

4-Methylsulphonylbenzoic acid, 3-bromo- (VAN HOVE), A., 1065. 4-Methylsulphonyltoluene, 3-bromo- (VAN HOVE), A., 1065.

δ-Methyltetradecane, αξ-dibromo- (Ruzicka), A., 1170.

y-Methyltetradecane, ao-dibromo- (Chuit, Boelsing, and Malet), A., 446.

δ-Methyltetradecane-αξ-dicarboxylic acid (Ruzicka), A., 1170. Methyltetradecane-αζ-dicarboxylic acids, and their esters (CHUIT, Boelsino, and Malet), A., 447.

δ-Methyltetradecane-αξ-diol (Ruzicka), A., 1170.

y-Methyltetradecane-ao-diol (Chuit, Boelsing, and Malet), A.,

Methyl-1:2:3:4-tetrahydroacenaphthpyridine, and their salts and benzoyl derivative (NAIR and SIMONSEN), A., 159.

Methyltetrahydrobenzoic acids, 2-hydroxy-, and their silver salts (MAZZA and DI MASE), A., 664; (MAZZA and CREMONA), A., 665.

Methyltetrahydrobenzphenylhydrazides, 2-hydroxy- (Mazza and Di Mase), A., 664; (Mazza and Cremona), A., 665.

8-Methyltetrahydrocoptisine (KITASATO), A., 1095.

7-Methyltetrahydroindazole, derivatives of (v. Auwers), A., 577.

4-Methyltetrahydronaphthyridine, and its salts and acetyl derivative (SEIDE), A., 63.

Methyltetrahydroporphyroxine, and its salts and derivatives (Rakshit), A., 64.

5-Methyl-1:2:3:6-tetrahydro-1:2-pyridazine-1:2-dicarbamidoacetic acid, ethyl ester (DIELS and ALDER), A., 159.

5-Methyl-1:2:3:6-tetrahydro-1:2-pyridazine-1:2-dicarboxylic acid, ethyl ester (Diels and Alder), A., 159. Methyl-Bz-tetrahydroquinazoline, and aminohydroxy- (MITTER and

Bhattacharya), A., 977.

N-Methyltetrahydroisoquinoline (RIEDEL), (P.), B., 286.

Methyltetrahydroisoquiuolines, and their salts (v. Braun and Wirz), A., 254.

Methylthebainol methiodide (Schöff and Borkowsky), A., 1210. Methylthebainolmethine, and its perchlorate (Schöpf and Borкомѕку), А., 1209.

5-Methylthiazole, 2-hydroxy-, and its derivatives (DE), A., 784. N-Methylthiodiphenylamine mono- and di-mercuriacetates (FINZI),

y-Methylthioglucose, and its derivatives (Freudenberg and Wolf), A., 230.

S-Methylthioguaiacol, action of nitric acid on (POLLARD and ROBINSON; C. K. and E. H. INGOLD), A., 146.

"7-Methylthioindigo," 6-chloro- (Soc. CHEM. IND. IN BASLE), (P.), B., 360.

7-Methylthioindoxyl, 6-chloro- (Soc. CHEM. IND. IN BASLE), (P.), B., 360.

Methylthioindoxyls, mono- and di-chloro- (I. G. FARBENIND.), (P.), B., 743.

7-Methylthioisatin, 6-chloro-, p-dimethylaminoanil (Soc. CHEM. IND. IN BASLE), (P.), B., 360.

Methylthiolbenzaldehydes, 3-chloro-, and 3-nitro-, and their derivatives (Hodgson and Beard), A., 1188.

Methylthiolbenzaldoximes, 3-amino- (Hodgson and Beard), A.,

o-Methylthiolbenzoic acid, mercury salt (Sachs and Ott), A.,

p-Methylthiolbenzoic acid, ethyl ester (KINDLER, TREU, and Fürst), A., 339.

4-Methylthiolbenzyl alcohol, 3-nitroso- (Hodgson and Beard), A., 1188.

2-Methylthiol-4:5-diphenyl-1:3:4-thiodiazine (Bose), A., 63.

5-Methylthiol-2-keto-1:2-dithion-3:4-diazine. See Carbazinic acid, dithio-, methyl ester sulphite.

7-Methylthiol-3:4-phenanthro-1:2:5:6-heptathiotriazine (P. C. and S. C. Guha), A., 982.

4-Methylthiolphenetole, and 2-bromo- (VAN HOVE), A., 1065.

Methylthiolphenoxyacetic acids (Behagnel), A., 149.

2-Methylthiol-4-phenyl-5-p-tolyl-1:3:4-thiodiazine (Bose), A., 64. 5-Methylthiol-1:3-4-thiodiazole, 2-hydroxy- (P. C. and S. C. Guha), A., 982.

4-Methylthioltoluene, 3-bromo- (VAN Hove), A., 1065.

4:6-dichloro-2-hydroxy-3-Methylthionaphthen, (Herz GRASSELLI DYESTUFF CORP.), (P.), B., 674.

4-Methylthionaphthen, 5:6-dichloro-3-hydroxy- (Wagner, Brune, HESSENLAND, HOFFA, MÜLLER, and GRASSELLI DYESTUFF Corp.), (P.), B., 212.

7-Methylthionaphthen, 3-hydroxy. See 7-Methylthioindoxyl. 5-Methylthiophen-4-carboxyanilide, 3-hydroxy-, and its deriv-

atives (Benary and Kerckhoff), A., 45.

N-Methyltriacetonalkamine (ORTHNER), A., 975.

N-Methyltriacetonamine, and its oxime (ORTHNER), A., 975. 6-Methyl-1:3:5-triazine, 2:4-dihydroxy-. See Acetoguanamide.

5:6-(1'-Methyltriazolo)quinoline, and its methiodide (Fries and MADJID), A., 779.

β-Methyltridecane, aμ-dibromo- (Chuit, Boelsino, Hausser, and MALET), A., 446.

a-Methyltridecane-av-dicarboxylic acid, dimethyl ester (Chuit, Boelsing, and Maler), A., 446.

 β -Mcthyltridecane-av-dicarboxylic acid, and β -hydroxy-, derivatives of (Ruzicka), A., 1171.

δ-Methyltridecane-αν-dicarboxylic acid (Ruzicka), A., 1170. Methyltridecane-av-dicarboxylic acids and their derivatives (Ruzicka), A., 57; (Chuit, Boelsing, and Malet), A., 446.

β-Methyltridecane-aμ-diol (Chuit, Boelsing, Hausser, and Malet), A., 446.

Methyltridecane-av-diols, and their dibromides (Chuit, Boelsing, and MALET), A., 446.

β-Methyl-Δα-tridecene-αν-dicarboxylic acid, ethyl ester (Ruzicka), A., 1171.

a-Methyl-∆\darkatridecenoic acid, and its derivatives (Chuit, Boelsing, HAUSSER, and MALET), A., 445.

Methyltridecenols, and their phenylurethanes (Chuit, Boelsino, HAUSSER, and MALET), A., 446.

Methyltridecenyl bromide (Chuit, Boelsing, Hausser, and Malet), A., 446.

Methylundecane-αλ-dicarboxylic acid (CHUIT, BOELSING, and MALET), A., 446.

y-Methylundeeane-αλ-dicarboxylic acid (Ruzicka), A., 1170. y-Methylundecane-aλ-diol, and its dibromide (Chuit, Boelsing.

and Malet), A., 446.

Methylundecenylmalonic acid, ethyl ester (Chuit, Boelsing, HAUSSER, and MALET), A., 445.

N-Methylurethane, N-chloro- (TRAUBE), (P.), B., 348.

Methyluric acids, molecular volumes of (W. and L. Klemm), A.,

a-Methylvaleraldehyde alcoholate, aβy-tribromo- (Dworzak and Prifferling), A., 1055.

y-Methylvaleryl-dl-a-aminoisobutyric acid, dl-a-bromo- (ABDER-HALDEN and ROSSNER), A., 576.

γ-Methylvaleryl-dl-norleucine (Abderhalden and Rossner), A.,

Methylxanthanoic acid, and its methyl ester (CONANT and GAR-VEY), A., 1177.

1-Methylxanthine, 5-cyano-4-amino-, and its hydrochloride (Montequi), A., 979.

Methylxanthophanic acid, and its transformation product, constitution of (Weiss and Woldich), A., 251.

Methystatic acid, ammonium salt (Borsche, Meyer, and Рептияси), А., 1192.

Methysticin, constitution of (Borsche, Meyer, and Peitzsch), A., 1192.

hydrogenation of (Borsche), A., 563.

alloMethysticin, copper derivative (Borsche, Meyer, and Peitzsch), A., 1192.

methyl ester (Borsche, Rosenthal, and Meyer), A., 664. Metol, reducing powers of mixtures of quinol and, and meto-quinone (A. and L. Lumière and Sevewetz), B., 238.

Metoquinone, comparison of reducing powers of mixtures of metol and quinol and (A. and L. LUMIÈRE and SEYEWETZ), B., 238.

"Mexphalte," emulsions of (MINERAL A.-G. BRIG), (P.), B., 595. Mica, Japanese, lithium content of (IIMORI and YOSHIMURA), A., 129.

Mice, ester-hydrolysing enzymes in extracts of (Falk and Noves), A., 483.

lipase action of extracts of, at different ages (FALK and NOYES), A., 277.

Micelles and complex formation (MALFITANO and SIGAUD), A., 511.

Michler's ketone, keto-chloride of, and its derivatives (Madelung and Völker), A., 55.

"Mickerfett," properties of (Jesser), B., 117.

Microbes (micro-organisms), relation of growth of, to composition of the medium (READER), A., 903.

growth of, in planted and unplanted soils (WILSON and LYON), B., 395.

constant and variable element of fatty acids in (Belin), A., 281. precipitation of calcium by (NAESLUND), A., 701.

action of iron, zine, and copper on (Bortels), A., 485. oxidation of sulphur by (GUITTONEAU), B., 150.

halophilic, culture and detection of (CLAYTON and GIBBS), B., 615.

Micromeria douglassi (tea vine), constituents of (Lynn and CHENG), B., 316.

Micropyrometer (v. WARTENBERG and MOEHL), A., 1048.

Microscopy, metallographic, illuminator for use in (JEWELL), A., 437.

"Mikrobin." See Benzoic acid, p-chloro-, sodium salt. Mildew, material for control of (Horst), (P.), B., 233.

in cotton goods (Morris), B., 470.

Milk, composition of (CRANFIELD, GRIFFITHS, and LING), B., 235. variations in (Tocher), B., 57.

effect of interruption of milking on (Nоттвонм), В., 666. value of foodstuffs for production of (Hansson; Fingerling),

B., 202. physico-chemical basis of the density of (Koestler), B., 91. atomisation and desiccation of (Nestle & Anglo-Swiss Condensed Milk Co.), (P.), B., 26.

deodorisation, cooling and dehydration of (MURRAY and TE AROHA DAIRY Co.), (P.), B., 801*. sterilisation of (Bing), (P.), B., 345.

pasteurisation and sterilisation of (Manchester), (P.), B., 26; (Munday), (P.), B., 503.

and its products, removal of foreign flavours and odours from (MacDonald and Univ. Tennessee), (P.), B., 922.

preservation of samples of (Letourneur-Hugon and Valin), B., 91.

carbonation of (Sweeney), (P.), B., 668.

method of increasing the coagulating power of (FROHRING), (P.), B., 123.

Milk, oiliness of (MATTICK), B., 711.

spontaneous souring of (LEOPOLD), B., 827.

liquid-treating apparatus for (MILLER and MILLER INDUSTRIES Co.), (P.), B., 57.

formation of acid by heating (Whittier and Benton), A., 895; B., 954.

relation between hydrogen-ion content and titratable acidity of (SHARP and McINERNEY), A., 1216.

relationship between various factors and ash constituents of (DAVIES and PROVAN), B., 889.

iodine in (MAURER and DIEZ), A., 169.

effect of iodine on secretion of (SCHARRER), A., 372. relation between fat content of cheese and (Goy), B., 455.

effects of diet on iron content of (ELVEHJEM, HERRIN, and Hart), A., 272.

phosphorus compounds of (RIMINGTON), A., 272.

proteolytic action of organisms in (Spitzer, Parfitt, and EPPLE), A., 593.

effect of diet and sunlight on vitamins in (CHICK and ROSCOE), A., 175.

relation between vitamin-B in diet of cows and in (Bechdel and Honeywell), A., 1223.

examination of impurities in, by luminescence (LITTERSCHEID), B., 613.

sampling of (Weber), B., 794.

manufacture of powdered or dried products of (Christensen), (P.), B., 570*

from individual herds, refractive index and lactose content of (Schulze), B., 794.

from the Somme, simplified molecular constants of (Joner and RADET), B., 794.

supplied to towns, chemical composition of (Nottboild), B., 954.

condensed, preparation of (HATMAKER), (P.), B., 457*.

sweetened, determination of sucrose in (RICHMOND), B., 827. condensed or evaporated, treatment of (Anderson-Barn-grover Manuf. Co.), (P.), B., 426.

cow's, variation in constituents of (CRANFIELD, GRIFFITHS, and Ling), B., 235.

influence of the age of cows on yield and quality of (WHITE and Drakeley), A., 895. substances extracted from (Tolkatchevskaya), A., 692.

fluorescence of, in filtered ultra-violet light (Gennons and SCHULZ), B., 613.

hydrogen-ion concentration of calcium chloride serum from (Frei and Lienhard), A., 70.

enzymes of (Chrzaszcz and Goralovna), A., 372. sodium and chlorine in (BARTHE and DUFILHO), B., 264.

vitamins in (OUTHOUSE, MACY, BREKKE, and GRAHAM), A., 692.

vitamin-C in (LAVIALLE), A., 487.

of Flemish cows, fat content of (PAGET), B., 827.

from cows fed on silage, biological value of (KIEFERLE and ZEILER), B., 202.

cow's and goat's, effect of iodine on (Scharrer, Strobel, SCHROPP, and SCHWAIBOLD), A., 372. cultured, as a drink (MITTENDORF), B., 155.

dried, manufacture of (McLAUGHLIN), (P.), B., 314.

machinery for making aqueous emulsions of (Bamford), (P.), B., 763.

made by vacuum and aeration methods, vitamin-A in (Dutcher, Honeywell, and Dahle), B., 954.

dried summer and winter, antirachitic properties of (Supples and Dow), A., 796.

dried and pasteurised, calcium, phosphorus, and nitrogen in (WILLARD and BLUNT), A., 1218.

dried whole, oxidation of fat in, on storage (HOLM, WRIGHT, and Greenbank), B., 589. evaporated, bacteria causing spoilage of (Kelly), B., 425.

ewe's, and its adulteration (SANNA and BAIARDO), B., 667 human, variation in composition of early (Lowenfeld, Wid-DOWS, BOND, and TAYLOR), A., 272.

isoelectric point of caseinogen of (TRENDTEL), A., 372. vitamins in (Macy, Outhouse, Graham, and Long), A., 692. determination of calcium in (ROTHWELL), A., 1216.

irradiated, vitamin-A in (Supplee and Dow), A., 1223. malted, determination of fat in (Rose), B., 91.

mammalian, chlorine and sodium in (BARTHE and DUFILHO), A., 1105.

raw, determination of bacteria in (VAN DEN BURGH), B., 425.

Minerals, evolution of (Jouniaux), A., 845. Milk, skimmed, vitamin-A content of (Platon), A., 796. synthesis of (IPATIEV and KLINKOIA; IPATIEV and KISSELEV; sterilised, cooling of, in bottles (Botterill, (P.), B., 457. IPATIEV and KONDYREV; IPATIEV and NIKOLAIEV), A., 739. twenty-seven years old (SCHULZE), B., 153. chemical formulæ of (Tibyriçá; E.), A., 642. winter, influence of cow's diet on fat-soluble vitamins of treatment of (STOCKTON and CELITE Co.), (P.), B., 114; (I. G. (Golding, Soames, and Zilva), A., 79. yeast foam malted, manufacture of (HILL, GIVENS, and NORTH-FARBENIND.), (P.), B., 390. concentration plant for (FRANCE), (P.), B., 390. WESTERN YEAST Co.), (P.), B., 795. buffer value of (BUCHANAN and PETERSON), B., 889. experiments on flotation of (McLachlan), B., 560. flotation agent for concentration of (BARRETT Co., Moses, and adulteration of sulphuric acid to increase Babcock test reading Canavan), (P.), B., 302. of (Petersen), B., 954. selective flotation of, from crude ores (WISER), (P.), B., 753. Gerber test for (GOLDING and WAGSTAFF), B., 313. separation of (Baldwin), B., 725. by froth-flotation (Lewis), (P.), B., 256*. reductase test for (Hiscox), B., 313; (GRIMES, BARRETT, and Reilly), B., 794. electromagnet for (KSANDA), B., 144. detection of water in (ELSDON and STUBBS), B., 375; (RIMINI), heavy liquids for use in (SULLIVAN), B., 414. B., 501; (GRONOVER and TÜRK), B., 793. removal of impurities from (GRUNWOLDT), (P.), B., 606. determination of casein in (WATERMAN), B., 539. determination of chlorine in (HUSBAND and GODDEN), A., 273; apparatus for solution and filtration of (Comp. Prod. Chim. (MACH and LEPPER), B., 793; (SCHULZE), B., 794. determination of fat in (Popp), B., 375; (BAUMANN), B., 539; ELECTROMÉTALL. ALAIS, FROGES, & CARMARQUE), (P.), B., (DAHLBERG, HOLM, and TROY), B., 890. washing of (France), (P.), B., 449, 583. determination of freshness of (INICHOFF), B., 793. microscopy of (Orcel), B., 15. containing bitumen or petroleum, continuous treatment of (Amblard), (P.), B., 836. determination of hydrogen-ion concentration of (Sharp and McInerney), A., 70. from Chibine Mountains (BONSTEDT, NENADREVITSCH, and Milk fat, determination of, in foodstuffs (LÜHRIG), B., 236. STARYNKEVITSCH-BORNEMAN), A., 129. determination of butyric acid value of (GROSSFELD), B., 667. earthy, treatment of (Feldenheimer), (P.), B., 333*. Milk powder, manufacture of (Sierra), (P.), B., 732*. treatment of (MERRELL-SOULE Co.), (P.), B., 265. insoluble, decomposition of (BERGE and SPURRIER), (P.), B., for packing (HAWLEY and MERRELL-SOULE Co.), (P.), B., 848. 763. Japanese, helium in (Sasaki), A., 225. machinery for making aqueous emulsions of (Bamford), (P.), Norwegian, platinum in (LUNDE), A., 439. radioactive. See Radioactive minerals. Milk products, treatment of (TODD and PFAUDLER Co.), (P.), Mineral oxides, reduction of (Bogitch), B., 680. Mint, British Columbian, essential oil content of (CLARK), B., B., 314. suitable for animals (Hunt), (P.), B., 503. analysis of (MILK PRODUCTS SUB-COMM.), B., 613. Mint essence, formation of, in the growth of the plant (RIPERT), Milk solids, determination of, in food products (WATERMAN and B., 505. Mirrors, explosion phenomena in coating of (Meyer), B., 913. LEPPER), B., 425. Mills, ball (Crowe), (P.), B., 511; (Barker), (P.), B., 767; (Traylor Engineering & Manuf. Co.), (P.), B., 895. half-silvered, production of (SMITH), A., 641. iron, on glass, passivity of (FREUNDLICH, PATSCHEKE, and Zocher), A., 1037, 1149. ball, drum, and tubular, grinding bodies for (KORDT), (P.), B., 63, 736. non-glare, coating for (G. F. and W. H. COLBERT), (P.), B., 44. ball or tube (GRUEBER MASCHINENBAU and PFEIFFER), (P.), silver, action of stannous chloride on formation of (MACCHIA), B., 352; (Köppen and Pfeiffer), (P.), B., 767. A., 1044. ball and tube, efficiency of (MARTIN, TURNER, and LINSTEAD), Mists from chemical reactions (REMY and FINNERN), A., 107. Mixing (PAILLY), B., 127. B., 623. Mixing apparatus (PARNALL and VEITCH; GILCHRIST & Co. and colloid. See Colloid mills. Shafor), (P.), B., 64; (Smith), (P.), B., 96; (Whitehead), comminuting (Newhouse and Allis-Chalmers Manuf. Co.), (P.), B., 240; (BENDIXEN and MILKANIC, LTD.), (P.), B., 320; (GOLDMAN), (P.), B., 511; (A. B. and C. R. SMITH), (P.), (P.), B., 352, 353. crushing and grinding (HAMEY), (P.), B., 431. B., 896. edge-runner (Martinez and Kirk; Lucas), (P.), B., 895. grinding (CLOUD), (P.), B., 63; (JAMESON and GAUNT), (P.), B., 159; (REES), (P.), B., 207; (SCHLEIFENBAUM adjustable frame for (SIMMONDS), (P.), B., 208. Mixing machines (SIMPSON), (P.), B., 575; (BENSON), (P.), B., 576; (Fowler & Co. and Fowler), (P.), B., 591; (NAIRN), (P.), B., 689. GEBR. & Co. and IRMER), (P.), B., 352; (SCHERBAUM; LOESCHE), (P.), B., 432; (TORRANCE), (P.), B., 511; (HÄNEL), (P.), B., 545; (LISTER & CIE. and LISTER), (P.), for preparation of agglomerated masses (BOWEN and SUPER COAL PROCESS Co.), (P.), B., 928. B., 831. hammers for (Bossert Corp. and Clement), (P.), B., 353. rotary (Burn and Lancaster), (P.), B., 432. rubber lining to (ROGERS), B., 175. rapid counter-current (Kalinowsky-Stier), B., 735. Mixtures, theory of (LICHTENECKER), A., 189. centrifugal (Scherbaum and Krause), (P.), B., 431. roller (Humberstone), (P.), B., 575; (Dörstling), (P.), B., 735. rule for properties of (Dejmek), A., 719. binary, theory and properties of (Schuster), A., 196. refractive index and composition of (PAVLOV), A., 927. fine grinding (EHRHARDT), (P.), B., 95. grinding or pulverising (CLOUD), (P.), B., 31. binary and ternary, rato of crystallisation of (TAMMANN and grinding and separating (Hoover, Fritz, Cahill, and Good-Rich Co.), (P.), B., 432. Botschwar), A., 196. Mobilometer, applications of (GARDNER and VAN HEUCKEROTH), mixing or pugging (Cooper and Mason), (P.), B., 800. B., 511. pulverising (Trowbridge), (P.), B., 159; (Internat. Combustion Excineering Corp.), (P.), B., 176; (Smith and Moisture. See Water. Molasses, formation and nature of (DĚDER), B., 423, 664. HAYES), (P.), B., 464; (KRAMER and HARTSTOFF-METALL treatment of (Leftwich), (P.), B., 858. A.-G.), (P.), B., 927. removal of fine grain contained in (RAFFINERIE TIRLEMONTOISE tube (Bentley), (P.), B., 575. tumbling (Titgen), (P.), B., 640. Soc. Anon.), (P.), B., 921. production of fertilisers from (DICKERSON and INDUSTRIAL

Millet, absorption of plant nutrients and formation of dry matter by varieties of (Schleusener), B., 55.

Milling apparatus (Ramsay and Maynew, Ramsay, & Co.), (P.), B., 331.

Mimetite from Mexico (Carobbi), A., 1164.

Mimosa extracts, fluorescein and fluorescence reactions of (Gernoross and Hübner), B., 853.

Mines, coal. See Coal mines.

Waste Products Corp.), (P.), B., 611.

cleaning of, for manufacture of compressed yeast (Kusserow), (P.), B., 921.

after-product, determination of dry substance in (Mikolášek), B., 920.

betty preparation of, for feeding stuffs (Giron), (P.), B., 265.

extraction of sugar from (Friedrich and Rajtora), (P.), B., 538; (Beroé), B., 663, 773.

Molasses, beet, fermentation of (Claassen), B., 888. feeding tests with additions of (JAGODA), B., 668. cane, fermentation of (KAYSER), B., 666. fermented, recovery of glycerin from (VARNES; LAWRIE and DU PONT DE NEMOURS & Co.), (P.), B., 455. Molecular association and separation into two phases (ANTONOV), A., 304. in liquids (Stachorski), А., 1139. compounds, organic (Buchler and Hear), A., 141; (Rhein-BOLDT, PIEPER, and ZERVAS), A., 242. constants derived from the Swan bands (SHEA and BIRGE), A., contraction in the liquid state (Mokrushin), A., 1128. diameter at the boiling point (WALDEN), A., 95; (Mok-RUSHIN), A., 296. numbers, periodicity of (TIBYRIÇA), A., 1011. rearrangements, mechanism of (RAMART), A., 1051, 1190. refraction. See under Refraction. rotation. See under Rotation. structure and magnetism (STONER), A., 295. of elements and compounds (Makovetzki), A., 500. in solution (Howell), A., 205, 1136. volume. See under Volume. Molecules, structure and cross-sectional area of (BRÜCHE), A., 1011. models for (v. Wišniewski), A., 921. effects of atoms on reactivity and strength of linkings of (TIFFENEAU), A., 129. exchange of functional groups between (Venley), A., 856. mechanics of (Schrödinger), A., 88.

production and utilisation of streams of (STERN; KNAUER and STERN), A., 92. separation of streams of, in magnetic fields (Len), A., 397.

activated (WALDBAUER and PATTON), A., 1011.

associated and polymerised, differences between (BERGMANN), A., 341.

complex, activation of, by collision (Fowler and Rideal), A., 114.

diatomic, spectra of (LANDAU; MULLIKEN), A., 183. electronic and nuclear motions in (Condon), A., 808. chemical constants of (v. Wišniewski), A., 922. homopolar, rotation of (Dennison), A., 291.

Molinia. See Hay, bog.

Molybdatomalic acid, salts, polariscopy of (Andrews), A., 543. Molybdenite, optical constants of, in the ultra-violet (MEYER), A.,

Röntgen-ray analysis of (NATTA), A., 38.

Molybdenite ores, leaching of (Svensson), B., 336.

Canadian (TIMM and PARSONS), B., 192.

Molybdenum, physical properties of, at high temperatures (ZWIKKER), A., 817.

K-series spectrum of (Larsson), A., 603; (Davis and Purks), A., 804.

under-water spark spectrum of (Allin and Ireton), A., 801. emission of light by (Worthing), A., 100. secondary emission from, due to bombardment by alkali metals

(Jackson), A., 1119. heats of electron condensation for, in gas discharges (Van Voor-

HIS), A., 1001. Matthiessen's rule for (Geiss and van Liempt), A., 401.

rate of evaporation and vapour pressure of (Jones, Lanomuir, and MACKAY), A., 927.

compact and colloidal (Wedekind and Jochem), B., 390. colloidal (DIJATSCHKOVSKI and DUMANSKI), A., 724.

heated, thermal decomposition of ammonia on (Burk), A., 426. scaling of fused quartz with (MILLER and HANOVIA CHEM. & Manuf. Co.), (P.), B., 80

Molybdenum alloys, compositions for (Molybdenum Corp. of AMERICA and Lucas), (P.), B., 582.

with nickel and chromium (Kelly), (P.), B., 847. with tungsten, limits of resistance of (VAN LIEMPT), A., 196.

Molybdenum carbide, production of, in lumps (LOHMANN), (P.), B., 108*.

chlorides, complex (BUCKNALL, CARTER, and WARDLAW), A., 327.

halides, space configuration of (LINDNER), A., 611. trioxide (molybdite), manufacture of (Schwarzkopf), (P.), B., 528.

recovery of, from ores (Doerner), B., 414. gaseous reduction of (ENGLE), B., 680.

Molybdenum pentoxide (molybdic anhydride), affinity potential of (Rolla and Piccardi), A., 630.

oxides and salts, preparation of (Jenckes), B., 439. silicide, crystal structure of (Zachariasen), A., 924.

Molybdenyl chloride (WARDLAW and WORMELL), A., 296. salts (WARDLAW and WORMELL), A., 636.

Dimolybdenum tetraoxyhydroxychloride (James and Ward-LAW), A., 1044.

Molybdic acid, and its salts (Travers and Malaprade), A., 122. Molybdates, production of (KISSOCK), (P.), B., 815.

specific heats of (CANE), A., 1018. complex arseno and phospho-conjugated (Denices), A., 433. Molybdotungstates, complex (FERNANDES), A., 33.

Molybdenum organic compounds with quinoline and trimethylamine (JAMES and WARDLAW), A., 1044.

Molybdenum detection, determination, and separation :detection of (Krauskopf and Swartz), A., 127; (Falciola), A.,

determination of, potentiometrically (Müller, Brun, and Unger), A., 746; (Brintzinger and Oschatz), A., 953.

separation of, from chromium, tungsten, and vanadium (Cremer and Fetkenheuer), B., 704.

Molybdenum blue, stable and unstable, and its use in determination of arsenates and phosphates (Denices), A., 1156.

Molybdenum steel. See Steel, molybdenum, under Iron.

Molybdite. See Molybdenum trioxide.

Molybdomalic acid, salts, complex, rotatory dispersion of (DAR-Mois and Descamps), A., 1126.

complexes of, action of bases on (DARMOIS), A., 41.

Molybdotungstates. See under Molybdenum.

Monardæin, and its salts (KARRER and WIDMER), A., 252.

Monardella oil (MILLER), B., 859.

Monardin (KARRER and WIDMER), A., 252.

Monosaccharides, acetylated (LEVENE and BENCOWITZ), A., 649. Monotreme, milk of (Marston), A., 272.

Montan wax. See under Wax.

Morindone, synthesis of (Bhattacharya and Simonsen), A., 882. Morphine, constitution of (Schöpf), A., 472.

extraction of, from visceral extracts (MARCILLE), A., 683. basic dissociation constant of, and its application in analysis (Колтногг), В., 266.

fluoborate (WILKE-DÖRFURT and BALZ), A., 238.

fluorosulphonate (LANGE), A., 532.

and its derivatives, microchemical differentiation of (VAN URK), A., 579.

detection of, microchemically (WAGENAAR), A., 1210.

detection and determination of, in tineture of camphor (CAINES),

determination of, in opium (HOLLMAN), B., 58.

determination of, and its separation from ψ -morphine (Balls),

 ψ -Morphine, determination of, and its separation from morphine (Balls), A., 264.

apoMorphine, colour reactions of, and its detection in presence of morphine (v. Miko), A., 473. Morphine alkaloids (v. Braun and Cahn), A., 266; (Schöpf), A.,

472; (Schöpf and Borkowsky), A., 1209.

Mortar, manufacture of (AKT.-GES. FÜR STEININD. and BRAUN; LINDEMANN), (P.), B., 190.

and mortar-formers (DITTER), (P.), B., 110.

apparatus for (TUTTLE and BLUE DIAMOND MATERIALS Co.), (P.), B., 142.

impervious to water (CIMENT PORTLAND ARTIFICIEL DE Pont-\(\lambda\)-Vendin), (P.), B., 966.

treatment of, and of mortar-forming materials (Kohen), (P.),

evaporation of water and salt solutions from (LAURIE and MILNE), B., 443.

consistence of (DAVEY), B., 13.

influence of iron content on strength of (LEAVITT and GOWEN), B., 483

relation of mineralogical content of Maine sands to strength of (LEAVITT and GOWEN), B., 602.

plastering, preparation of (KAPPERER), (P.), B., 966 Mosandrum (Wells), A., 1049.

Mosquito larvæ, destruction of (ROUBAUD and VEILLON), (P.), B.,

Moss, Irish, mucilage from, and its determination (HAAS and Russell-Wells), B., 471.

Spanish. See Tillandsia usneoides.

Moths, composition for protection of wool against (Larvex Corp. and Minaeff), B., 8.

Mother-of-pearl, artificial (Ostromisslenski and Naugatuck CHEMICAL Co.), (P.), B., 228.

Motors, acids in crank-cases of (Meston), B., 356.

utilisation of marine-animal and fish oils in (LUMET and MAR-CELET), B., 736.

autoxidation of treated combustible liquids as cause of "knock" in (Moureu, Dufraisse, and Chaux), B., 692. Motor fuel. See under Fuel.

Motor spirit (Dumanois), (P.), B., 245.

valuation of (OSTWALD), B., 402. Moulds (biological), carbon dioxide in nutrition of (ROCKWELL and Highberger), A., 903.

assimilation of nitrogen in (Kostytschev), A., 703.

formation of carbohydrates from fatty acids by (Terroine, Bonnet, and Duquénois), A., 797.

formation of fats from carbohydrates by (TERROINE and BON-NET), A., 797.

growth of, in coal (FISCHER and FUCHS), B., 719.

growth of, on cobaltammine salts (Kinoshita), A., 906.

growth of, on sizing and finishing materials (Morris), B., 470. Moulds (metallurgical), and material for them, testing of (TREU-HEIT and TREUHEIT), B., 222.

chromium-plated (BECKET and ELECTRO METALLURGICAL Co.), (P.), B., 726.

Moulded articles (BARRINGER, PETERSON, and GEN. ELECTRIC Co.; Peterson and Gen. Electric Co.), (P.), B., 260.

manufacture of (BROWN and SILUMINITE INSULATOR Co.), (P.), B., 47; (British Thomson-Houston Co. and Peterson), (P.), B., 119; (Burmeister), (P.), B., 923. from fibrous materials (Austro-American Magnesite Co.

and Erdmann), (P.), B., 13. material for use in (HAYDE and AMER. AGGREGATE Co.),

(P.), B., 843*. compositions (MICHELIN & CIE.), (P.), B., 367.

Moulding composition, organic (HULL and WESTERN ELECTRIC Co.), (P.), B., 947.

Mt. Pelée, gases of the lavas from (Shepherd and Meerwin), A., 1164.

Mucic acid, brucine, menthylamine and strychnine salts (PATTERson and Fulton), A., 229.

potassium salt, bismuthyl derivative of (Browning, Cohen, GULBRANSEN, PHILLIS, and SNODGRASS), A., 855.

alloMucic acid, brucine, menthylamine and strychnine salts (PATTERSON and FULTON), A., 229.

Mucilage, wood and cellulose (Schwalbe), B., 648.

Mucoids, immunological behaviour of (Lewes and Wells), A., 1103.

Muconic acid (FARMER and DUFFIN), A., 448.

Muconic acid, a-bromo-, derivatives of (FARMER and DUFFIN), A., 448.

Mud from the terrace of the Musée Oceanographique, Monaco (MARCELET), A., 1049.

manufacture of ceramic and building materials from (Loessin), (P.), B., 332.

Müller Lecture (SÖRENSEN), A., 166.

Mullite, Rontgen-ray structure of (Hyslor and Rooksby), B., 219. determination of, in porcelain (McVAY), B., 220.

Muscle, theory of contraction of (CLARK), A., 1107. effect of cooling on (Akatsuka), A., 900.

influence of ions on functions of (Selter), A., 479.

chemical changes in, during fatigue (EMBDEN and JOST), A., 388. adenylic acid in (EMBDEN and ZIMMERMANN), A., 787.

ammonia in (Parnas and Mozolowski), A., 694.

rôle of phosphates in carbohydrate metabolism of (Beattie and Milroy), A., 72.

action of sympathetic system on carbohydrate metabolism of (Büttner), A., 170.

hydrolysis of glycogen by enzyme of (LOHMANN), A., 75. degradation of glycogen in (v. Euler, Nilsson, and Jansson), A., 479.

influence of glycogen in, on rigor (WACKER), A., 693.

metabolism of lactacidogen in, in diabetes (LANGE), A., 170. formation of lactic acid during contraction of (EMBDEN, LEHNARTZ, and HENTSCHEL), A., 589.

formation of lactic acid in extracts of (DAVENPORT and

Сотохю), А., 790.

enzymic formation of lactic acid in (MEYERHOF), A., 75, 590; (MEYER), A., 590; (MEYERHOF and LOHMANN), A., 697; (MEYERHOF and MEYER), A., 1112.

Muscle, distribution of lipins in (BLOOR), A., 477.

phosphorus in contraction of (P. and M. G. EGGLETON), A., 274. phosphorus distribution and hydrolysis in, in presence of hormones (Oda), A., 282.

effect of adrenaline on phosphorus partition in (Sacks), A., 994. colloidal properties of proteins of (Weber), A., 1215.

succinic acid in (NEEDHAM), A., 790.

avian red and white, formation of lactic acid in (SCHMITT-Krahmer), A., 374.

cardiac, lactacidogen in (Pergen), A., 168.

maximum lactic acid production of (Arning), A., 987. cats', hydrogen-ion concentration of (FURUSAWA and KERRIDGE),

frogs', acid formation in thiocyanate rigor in (Selter), A., 479. effect of hydrogen-ion concentration on respiration of (Comel), A., 1107.

glycogen in, after injection of insulin (OLMSTED and HARVEY), A., 701.

production of lactic acid in (Woodrow and Wigglesworth), A., 897.

frogs' gastrocnemius, phosphates in (P. and G. P. EGGLETON), Ă., 271.

mammalian, post-mortem changes in (SIMPSON and MACLEOD), A., 479.

perfused isolated, effect of glycine on metabolism of (RAPPORT and KATZ), A., 480.

smooth, effect of hydrogen-ion concentration on (McSwiner and Newton), A., 694.

voluntary, nature of inorganic phosphorus in (Fiske and Sub-BAROW), A., 990.

determination of carnosine in (Kuen), A., 1215. determination of iron in (Henriques and Roche), A., 787.

extracts, determination of phosphoric acid in (LOHMANN and Jendrassik), A., 69.

Muscone, constitution of (Ruzicka), A., 57.

Muscular exercise, effect of, on constituents of blood (Piazza), A.,

influence of, on blood and urine in circulatory diseases (GROAG and Schwarz), A., 373.

Mushrooms, influence of proteolytic enzymes of, on nitrogenous decomposition (BARES), A., 703.

formation of carbamide from (IVANOV and TOSCHEVIKOVA), A.,

Musts, clarification of, by means of tartaric and malic acids (Errichelli), B., 501.

peetins and gums in, and their determination (Semichon and FLANZY), B., 792. Mustard, black. See Brassica nigra.

Mustard oils. See Thiocarbimides.

Mutarotation (Worley and Andrews), A., 631; (Andrews and Worley), A., 736.

alkalinity of the medium in (COLIN and CHAUDUN), A., 426. neutral salt action in (Lowry and Smith), A., 1150.

in aqueous alcohols (RICHARDS, FAULKNER, and LOWRY), A.,

Mutase in wheat, rye, and soya beans (Klar), A., 907. liver (v. Euler, Nilsson, and Runehjelm), A., 793.

Mutases, keto-aldehyde (Kunn and Heckscher), A., 74. Mutton bird oil, biochemistry of (CARTER and MALCOLM), A., 691.

Mycetosamine (Dous and Ziegenspeck), A., 383. Mycetose (Dous and Ziegenspeck), A., 383.

Myelin, hydration of (FRIEDEL), A., 935.

Myogen, physico-chemical constants of (Weber), A., 1215.

Myoporum lætum, constituents of (McDowall), A., 566. Myristic acid, preparation of (VERKADE and Coops), A., 854.

melting points and heats of crystallisation of derivatives of (GARNER and RUSHBROOKE), A., 718.

Myristic acid, a-thiol- (NICOLET and BATE), A., 977. Myristylsalicylic acid (KAUFMANN), B., 155.

Myrobalan extracts, insoluble constituents of (Chambard), B.,

Myrosin (Heiduschka and Pyriki), A., 386.

Nandinine, constitution of, and its ethyl others (KITASATO),

Naphtha solutions, corrosive influence of sulphur and sulphur compounds in (SCHMIDT), B., 693.

Naphthacarbazoles, formation of, and hydroxy- (Fuchs and Niszel), A., 257.

Naphthadianthrone, 3:4:3':4'-tetrahydroxy- (ECKERT and HAMPEL). A., 882.

1:2:7:8-Naphthadicarbazole (Fucus and Niszel), A., 257.

Naphthafluorescein, 4-hydrony- (Dziewoński, Galitzerówna, and Kocwa), A., 359.

Naphtha-3-hydroxyacridonequinone (Lewicka), A., 575.

1:8-Naphthalbis-p-dimethylanilide (DAVIES and LEEPER), A., 665. 1:8-Naphthaldianilide (Davies and Leeper), A., 665.

a-Naphthaldoxime, 2-hydroxy-, acetate of (Lindemann, Könitzen, and Romanoff), A., 981.

Naphthalene, pure, manufacture of (v. Skopnik), B., 358.

formation of, during high-temperature carbonisation (Kosaka and Oshima), B., 691.

recovery of, from mixed gases (Brégeat and Brégeat Corp. of America), (P.), B., 173*.

heat of combustion of (Keffler and Guthrie), A., 193.

vapour pressure of (Andrews), A., 13. solubility of (Weissenberger), B., 596.

in aromatic hydrocarbons (Rhodes and Eisenhauer), B., 324. in benzene, toluene, and xylene (Schläpfer and Flachs), A., 509.

hydrogenation of (KLING and FLORENTIN), A., 453; (HUGEL and Friess), A., 1178.

nitration of (VARMA and MENON), A., 454.

molecular mixtures of metals with (v. Bogdandy, Boehm, and Polányi), A., 120.

action of chlorosulphonic acid on (Corbellini), A., 551. fluorindine derivatives of (Kehrmann and Logoz), A., 578.

detection of minute amounts of, in flour (Erstein and Harris), B., 395.

determination of, in gas (Bonte), B., 834.

Naphthalene, 5-amino-1:4:6-trihydroxy-, and 1:4:5:6-tetrahydroxy-, and their salts (DIMROTH and Roos), A., 886.

a- and β-bromo-, transformation with (Loevenich and Loeser), A., 348.

1:2- and 1:4-dihydroxy- (Fucils and Pirak), A., 53.

1:4-dihydroxy-, action of phenylhydrazine and sulphurous acid on (Fucus and Niszel), A., 1184.

2-hydroxy-1-cyano-, and nitro-2-hydroxy-1-cyano-, and their acetyl derivative (LINDEMANN, KÖNITZER, and ROMANOFF),

a-nitro-, alkaline oxidation of (GARDNER), A., S77.

1:4- and 2:3-dinitro-, preparation of (Chubozilov), A., 49. Naphthalenes, dichloro-, ultra-violet absorption spectra of (LASZLO), A., 1007.

Naphthalene series (Dziewoński, Galitzerówna, and Kocwa), A., 359.

Naphthalene-4'-azo-6-acenaphthenesulphonic acids, l'-hydroxy-(Dziewoński and Orzelski), A., 347.

Naphthalenedicarboxylic acid, from Manila copal (Ruzicka, STEIGER, and Schinz), A., 60.

Naphthalene-1:5-disulphonamide (STEINKOPF), A., 965. Naphthalene-1:5-disulphonic acid, dipyridine salt (Gebauer-Fül-NEGG and RIESENFELD), A., 139.

Naphthalene-1:6-disulphonic acid, hydrolysis of (Ambler and Scanlan), B., 324; (Lynch and Scanlan), B., 808.

Naphthalenedisulphonic acids, isomeric, rate of formation of (HEID), A., 454.

Naphthalenedisulphonyl chloride and fluorides (STEINKOPF), A., 965.

Naphthalene-2:4-dinitrophenol (Buehler and Hear), A., 141. β-Naphthalenesulphonic acid, cobalt salt (Biltz and Birk),

Naphthalenesulphonic acids (Ambler and Scanlan), B., 321; (LYNCH and SCANLAN), B., 808.

arylamine salts of (Forster and Watson), A., 868.

menthyl esters, rotation of, in various solvents (Patterson and

McAlpine, A., 295. identification of, by their benzyl-\$\psi\$-thiocarbamide salts (Hann and Keenan), A., 866.

microscopical tests for (GARNER), B., 101.

Naphthalene-1-sulphonic acid-4-azo-2:4-diamino-4'-hydroxydiphenylsulphone-5-carboxylic acid (BRITISH DYESTUFFS CORP., MENDOZA, and SAUNDERS), (P.), B., 101.

Naphthalenesulphonyl fluorides, and their derivatives (STEIN-

корг), А., 965. 1:4:5:8-Naphthalenetetracarboxylic acid, manufacture of (ECKERT and Grasselli Dyestuff Corp.), (P.), B., 173*.

Naphthalfluorescein, 5-chloro- (Dziewoński and Zahrzewska-Baranowska), A., 871.

Naphthalic acid, and 4-amino-, 2-hydroxy-, and 3-nitroso-4hydroxy-, salts and derivatives of (Dziewoński, Galitzerówna, and Koowa), A., 359.
Naphthalic acid, 4-chloro-, methyl ester (Dziewoński and

Zahrzewska-Baranowska), A., 871.

Naphthalic anhydride, 4-chloro-, dinitro-derivative (Dziewoński and Zahrzewska-Baranowska), A., 871.

1:8-Naphthalyl chloride (DAVIES and LEEPER), A., 665.

Naphthaphenazine, 3-hydroxy- (Kehrmann and Mermod), A., 261.

Naphthaphenfluorindine, amino-, acetyl derivative, hydrochloride (Kehrmann and Logoz), A., 578.

a-Naphthaquinoline, 2:4-dihydroxy-, and its hydrochloride and derivatives (BAUMGARTEN and KÄRGEL), A., 574.

Naphthaquinone, hydroxy-, alkylation of (Fieser), A., 59, 155, 462.

1:4-Naphthaquinone, 6-hydroxy-, nitro-derivative, and 5:6-dihydroxy-, and its salts (DIMROTH and Roos), A., 886.

Naphthaquinones, manufacture of derivatives of (Soc. Anon. MAT. COL. PROD. CHIM. ST.-DENIS, LANTZ, and WAHL), (P.), B., 39.

a-Naphthaquinone-5-hydroxyanthranilic acid (Lewicka), A., 575. a-Naphthaquinone-5-methoxyanthranilic acid (Lewicka), A.,

Naphthastyrils, hydroxy- (I. G. FARBENIND.), (P.), B., 808.

1:8-Naphthasultone, 4-bromo- and 4-chloro- (I. G. FARBENIND.), (P.), B., 275.

1:8-Naphthasultone-6-sulphonic acid, 4-chloro-, sodium salt (I. G. FARBENIND.), (P.), B., 275.

periNaphthathioindoxyl, 9-amino-, and 5-bromo-9-amino-, 9-acetyl derivative (I. G. FARBENIND.), (P.), B., 809.

5:6-Naphtha-1:2:4-triazine, 3-amino-, and its acetyl derivative, and 3-hydroxy- (DE), A., 979. Naphthazarin, structure of, and its compound with stannic

chloride (Pfeiffer, Oberlin, and Segall), A., 247. o-Naphthazarin. See 1:4-Naphthaquinone, 5:6-dihydroxy-.

Naphthimide, 4-chloro- (Dziewoński and Zahrzewska-Baranowska), A., 871.

aβ-Naphthiminazole-4:5-quinone (Fieser and Ames), A., 1198.

1-Naphthoic acid, 8-amino-3-hydroxy- (I. G. FARBENIND.), P.), B., 808. 7-hydroxy-, silver salt and derivatives of (Dziewośski,

GALITZERÓWNA, and Kocwa), A., 359. 2-Naphthoic acid, 3-amino-, manufacture of (Soc. Chem. Ind. in

Basle), (P.), B., 470*. dithio-, ethyl ester (SAKURADA), A., 134. 3-Naphthoic acid, 1-chloro-2-amino- (I. G. FARBENIND.), (P.),

8-Naphthoic acid, 1-cyano- (Davies and Leeper), A., 665. Naphthoic acids, nitro-, brucine salts (Meisenheimer and

Höring), A., 767. Naphthoic anilide, 2:3-hydroxy-, fading of hanks dipped in, and

its derivatives (HIGGINS), B., 649.

Naphthoic arylides, 2:3-hydroxy- (British Synthetics and Higgins), (P.), B., 102.

Naphthoic β-naphthylamide, 1:2-hydroxy- (1. G. FARBENIND.), (P.), B., 905.

Naphthol, manufacture of sulphurised derivatives of, as tanning agents (FABR. VAN CHEM. PRODUCTEN and KRAUS), (P.), B., 497.

a-Naphthol, and its ether, ketimine hydrochlorides from condensation of, with nitriles (Housen and Fischer), A., 1079.

α-Naphthol, 4-amino- (Fuchs and Pirak), A., 53.

B., 550.

β-Naphthol, oxidation of (DISCHENDORFER and DANZIGER), A., 968.

β-Naphthol, 1-amino-, acetyl derivative (Lindemann, Könitzer, and Romanoff), A., 981.

7-amino-, acetylbenzoyl derivatives of (RAIFORD and TALBOT), A., 354.

Naphthols, vapour pressure of (BERLINER, MAY, and LYNCH), condensation products of, with cyclohexanol (Alberti), A., 145.

formation of naphthaearbazoles from (Fuchs and Niszel), A., 257. detection of (WARE), B., 596.

β-Naphthols, manufacture of a-aroyl derivatives of (I. G. FARBEN-IND. and FARBW. VORM. MEISTER, LUCIUS, & BRÜNING), (P.),

- 3-β-Naphtholazo-2-methylquinoline (Berlingozzi), A., 675.
- 3-β-Naphtholazo-2-phenylquinoline (Berlingozzi), A., 675.
- 1-Naphthol-8-carboxylic acid, manufacture of (Herz, Schulte, and Grasselli Dyestuff Corp.), (P.), B., 437.
- 2-Naphthol-3:6-dicarboxylic acid, diarylides of (Chem. Fabr. Griesheim-Elektron), (P.), B., 212.
- β-Naphthol-3:6-di[sulphondimethylamide] (STEINKOPF), A., 966. β-Naphtholdisulphonyl chloride and fluorides, and their ammonium salts (STEINKOPF), A., 966.
- a-Naphtholisatin, constitution of (STEOPOE), A., 673.
- a-Naphthol-4-sulphonic acid, arylamine salts of (Forster and Watson), A., 868.
- β-Naphthol-4-sulphonic acid, 1-amino-, constitution of, and its compound with copper (Battegay and Schmut), A., 352.
- β-Naphtholsulphonyl chloride, derivatives of (STEINKOPF), A., 966.
- β-Naphthol-3:6:8-trisuiphonyl fluoride, and its ammonium salt (STEINKOPF), A., 966.
- Naphthisooxazole, and its nitro-derivative (LINDEMANN, KÖNITZER, and ROMANOFF), A., 981.
- ψ-1:8-isoNaphthoxazones (Dey, Sarkar, and Seshadri), A., 63. 8-a-Naphthoyl-1-naphthoic acid (Weiss and Fastmann), A., 466.
- Maphthyl alkyl ethers, nuclear, and their sulphonic acids, manufacture of (I. G. FARBENIND.), (P.), B., 860.
- β-Naphthyl chloroacetate (Housen and Blasse), A., 143.
- a-Naphthylamine, effect of pressure on crystallisation temperature of (Ризніх and Grebenshchikov), A., 101.
- α- and β-Naphthylamines, equilibria of cresols with (Pushin and Basara), A., 628.
- action of chlorosulphonic acid on (CORBELLINI), A., 1179.
- Naphthylaminesulphonic acids, transformations of (Wahl and Vermeylen), A., 352, 553.
- isomeric, influence of sulphonic groups on (Vendelstein), A., 760.
- Naphthylaminoalkylamines (Duisberg, Hentrich, Zeii, Huis-Mann, and Grasselli Dyestuff Corp.), (P.), B., 838*. β-Naphthylamino-αβ-dibenzoylethylene (Ballet), A., 1055.
- 2-α- and β-Naphthylamino-2:5-dimethylcoumaranones (v. Auwers and Lorenz), A., 60.
- 2-Naphthylaminophenylarsinic acids (Gibson and Johnson), A., 1211.
- 2-α-Naphthylamino-2:4:6-trimethylcoumaranone (v. Auwers and Lorenz), A., 61.
- s-a-Naphthylamylthiocarbamides (Dyson, Hunter, and Soyka), A., 263.
- N-a-Naphthylbenziminophenyl ether (Chapman), A., 874.
- 1-β-Naphthylbenzobenzpyrazolone. See 1-β-Naphthylnaphthpyrazolone.
- Naphthyl benzyl ketone, 4-hydroxy- (Housen and Fischer), A., 1079.
- a-Naphthylbenzylidenenaphthalan (WEISS and FASTMANN), A., 466. s-a-Naphthylbutylthiocarbamides (Dyson, Hunter, and Soyka), A., 263.
- a-Naphthylcarbamic acid, l-neomentholyl ester (GORDON), A., 1195.
- Naphthyl chloromethyl ketone, 4-liydroxy-, and its ketimine liydrochloride (Houben and Blaese), A., 143.
- a-Naphthyldiazonium fluoborate (BALZ and SCHIEMANN), A., 654. β-1-Naphthyl-aa-dibenzylethylene glycol (McKENZLE and DENN-LER), A., 243.
- s-a-Naphthyldimethylthiocarbamide (Hunter and Styles), A., 680.
- 1-Naphthyl-3:5-dimethyl-1:2:4-triazoles, and their salts (Grüner, Beneš, Schubert, and Arman), A., 777.
- 1-Naphthyl-3:5-dimethyl-1:2:4-triazoles, 1-nitro- (Hernler and Matthes), A., 469.
- 2:3-periNaphthyleneindole (Korczyński, Brydovna, and Kierzek), A., 256.
- 2:3-periNaphthylene-a-naphthindole, and its picrate (Konczyński, Brydovna, and Kierzek), A., 256.
- 2-(Naphthylethenyl)-3-methyl-β-naphthapyrylium salts, β-2'-hydroxy- (De), A., 773.
- a-Naphthylethylcarbamyl azide and chloride (Stollé, Nieland, and Merkle), A., 1204.
- d-a-Naphthylglycollic acid, and its methyl ester (McKenzie and Dennier), A., 243.
- s-a-Naphthyl-n-heptylthiocarbamide (Dyson, Hunter, and Soyka), A., 263.
- s-α-Naphthyl-n-hexylthiocarbamide (Dyson, Hunter, and Soyka), A., 263.

- β-(β-Naphthyl)hydrazinoethane, a-nitro- (WORRALL), A., 761. 1'-Naphthylidene-1:2:3:4-tetrahydro-8:9-benzoxanthyl chloride,
- 4:2'-hydroxy- (Dickinson and Heilbron), A., 884. 2-Naphthylimino-3 - acetyl - 5 - methylthiol-2:3-dihydro-1:3:4-oxidiazole (P. C. and S. C. Guila), A., 982.
- a-Naphthylmethylamine (I. G. Farbenind, and A.-G. für Anilin Fabr.), (P.), B., 572.
- Naphthyl methyl ketimine, 4-hydroxy-, hydrochlorides (Houben and Blaese), A., 143.
- 8-a-Naphthylmethyl-1-naphthoic acid (Weiss and Fastmann), A., 466.
- N-α-Maphthylmethylphthalimide (I. G. FARBENIND. and A.-G. FÜR ANILIN FABR.), (P.), B., 572.
- Naphthyl-3(5)-methylpyrazole, 5(3):2'-hydroxy- (WITTIG and Blumenthal), A., 668.
- α-Naphthylnaphthalide (Weiss and Fastmann), A., 466.
- 2-Naphthyl-α-naphthaquinol, 4'-hydroxy-, and its triacetate (Pummerer and Hurrmann), A., 771.
- 2-Naphthyl-a-naphthaquinone, 4'-hydroxy-, and its acetate (Pummerer and Huppmann), A., 771.
- 12-α-Naphthyl-β-phennaphthacridine, 12-2-hydroxy-, and its acetate (DISCHENDORFER), A., 1201.
- 6-Naphthylphenoxazinesulphonic acid (Turski, Bojanowski, Moniuszko, and Vogelgarn), A., 263.
- s-a-Naphthyl-n-propylthiocarbamide (Dyson, Hunter, and Soyka), A., 263.
- 1:8-a-Naphthylpyridazone-4-naphthaquinone (Dziewoński, Galitzenówna, and Kocwa), A., 359.
- δ-Naphthylsemicarbazide dithiocarboxylic acid, methyl ester (P. C. and S. C. Guha), A., 982.
- β-Naphthyltrimethylammonium salts, and 5-nitro- (INGHAM), A., 963.
- 3- $(\beta$ -1'-Naphthylvinyl)- β -naphthapyrylium chloride, β -2'-hydroxy-(Dickinson and Heilbron), A., 251.
- 1:5-Naphthyridine, and its salts (WINKELMANN), A., 678.
- 1:8-Naphthyridine, and its salts (Koller), A., 1089. and 2:4-dichloro-3-cyano- (Koller), A., 886.
- 1:3-Naphthyridine, 2:4-dichloro-, and its gold salt, and 2:4-di-hydroxy- (Koller), A., 367.
- 1:8-Naphthyridine-3-carboxylic acid, 2:4-dihydroxy-, sodium salt and methyl ester (Koller), A., 367.
- amide from (Koller), A., 886. Narceine, microchemistry of (WAGENAAR). B., 732.
- Narcosis, action of, on chemical composition of the brain (Serejski), A., 376.
- urethane, effect of, on action of glycine and dextrose in rabbits (Guttmacher and Weiss), A., 481.
- Narcotics, velocity of action of (LENDLE), A., 1219.
- effect of, on blood (Brauchli and Schnider), A., 173. Nardus. See Hay, bog.
- Nebulium, spectrum of (Bowen), A., 997; (Fowler), A., 997, 1117.
- 1117.
 Nematic fusions, synthesis of (Kast), A., 1017.
- Neodymium, absorption spectrum of vapour of (McLennan, Cohen, and Liggett), A., 396.
- are and spark spectra of (McDonald, Sutton, and MoLay; McLennan and Liggett), A., 390.
- Neodymium nitrate, double salt of cocaine and (PACE), A., 265. silicates, synthesis of (Duboin), A., 951.
- ammonium sulphate (Zambonini and Stolfi), A., 949. rubidium sulphate (Zambonini and Caglioti), A., 842.
- Neon, occurrence of, in vacuum tubes (Lawson), A., 104.
- spectrum of (Hansen), A., 177; (Saha), A., 802. Zeeman offeet in (Nagaoka and Mishima), A., 804.
- reversal of lines in (NAGAOKA and MISHIMA), A., 705. ionised, spectrum of (Kichlu), A., 490, 910; (De Broin),
- A., 705; (DE Broglie), A., 910. rays of (Pérard), A., 285.
- ionisation potential of (Millikan and Bowen), A., 913. potential difference in positive strata of (Penning), A., 389.
- electric discharge in (GÜNTHER-SCHULZE), A., 392. effective cross-section of, against slow electrons (Brüche,
- LILIENTHAL, and SOHRÖDTER), A., 1119.
- liquid and solid, vapour pressures of (Crommelin and Gibson), A., 927.
- liquid, surface tension of (VAN URK, KEESOM, and NIJHOFF), A., 13. metastable state of (Dorgelo and Washington), A., 490.
- coupling of quantum vectors for (GOUDSMIT and BACK), A., 84. Neon lamp. See under Lamps.

Neon tubes (Machlett and Rainbow Light), (P.), B., 529. Neps, dyeing of (LAWRIE), B., 964.

Nephelometer, improved (Kleinmann), A., 335.

Nephritis, condition of blood in (Henderson, Book, Dill, HURXTHAL, and VAN CAULAERT), A., 1217.

cerebrospinal fluid in (LYTTLE and ROSENBERG), A., 789. phosphatase of kidneys in (Brain and Kay), A., 1106. dl-Nerolidol, manufacture of (Ruzicka and Naef), (P.), B., 860*.

Nerves, gas exchange during stimulation of (Fenn), A., 583.

Nerve centres, excitability of, in relation to hydrochloric acid content (AMBARD and SCHMID), A., 480.

Nervonic acid (KLENK), A., 691.

Nervous system, microchemistry of (MAY), A., 986.

Nessler's reagent (NAUDÉ), A., 311.

Neurine fluoborate (Wilke-Dörfurt and Balz), A., 238. Neutral-red, preparation of (PHILLIPS and COHEN), A., 895.

protein error in hydrogen-ion determinations with (Lepren and MARTIN), A., 534.

effect of, on Paramacium (Wilson), A., 1220.

Neutral salt action (Bowe), A., 311; (Ambard, Schmid, and ARNOVLYEVITCH), A., 476.

influence of temperature on (Weissberger), A., 520. in concentrated solutions (SCHMID and OLSEN), A., 21. in ionic reactions (v. Kiss and Bruckner), A., 945. Neutralisation curves (Englund), A., 121.

Newsprint, possibilities of manufacture of, in Australia (Ben-JAMIN), B., 871. Ngaio. See Myoporum lætum.

Ngaol, dehydration and hydrogenation of (McDowall), A., 566. Ngaione, hydrogenation of (McDowall), A., 566.

Ngaiylamine, and its salts and benzenesulphonyl derivative (McDowall), A., 567.

Niagara Falls, electric furnaces at (FITZGERALD), B., 303.

Nickel, structure of (Collins), A., 183.

pure, electrolytic production of (Internat. Nickel Co., Suhl, SANDS, and FRASER), (P.), B., 819.

malleable, manufacture of (HYBINETTE), (P.), B., 527.

and its alloys, cementation of (ÉTABL. DE DION-BOUTON SOC. ANON.), (P.), B., 847. cementation of, with boron (Feszczenko-Czorowse), B., 278.

welding of (Internat. Nickel Co., Pilling, and Schoener), (P.), B., 784.

absorption spectrum of (MAJUMDAR), A., 5; (McLennan, COHEN, and LIGGETT), A., 396; (MEGGERS and WALTERS),

spark spectrum of (Shenstone), A., 998.

absorption in under-water spark spectrum of (Smith and Muskat), A., 607.

ultra-violet absorption spectrum of (McLennan and Cooley), A., 395.

absorption of X-rays by (Martin), A., 912.

magnetic properties of evaporated films of (Edwards), A., 299. non-magnetic films of (HANAWALT and INGERSOLL), A., 192; (JACKSON), A., 299.

ferromagnetism of, and quantum states of the nickel atom

(Rožansky), A., 84.

heat of magnetic transformation of (UMINO), A., 1018. anodic behaviour and passivity of (MÜLLER), A., 1145. periodic passivity of (Hedges), A., 25.

and its alloys with cobalt and iron, electro-deposition potentials of (GLASSTONE), A., 24

crystals, scattering of electrons by (DAVISSON and GERMER), A., 492; (PATTERSON), A., 817.

Matthicssen's rule for (GEISS and VAN LIEMPT), A., 401.

sub-boundaries in (DAVENPORT), A., 1017.

rate of evaporation and vapour pressure of (Jones, Langmuir, and MACKAY), A., 927.

viscosity of, and its alloys (Cournot and Silva), A., 1019. pyrophoric, adsorption of hydrogen and earbon dioxide by (Nikitin), A., 406.

solubility of, in mercury (Tammann and Kollmann), A., 303. permeability of, to hydrogen (Lombard), A., 616. catalytic, manufacture of (I. G. Farbenind, and Farbw. vorm.

MEISTER, LUCIUS, & BRÜNING), (P.), B., 528. temperature and activity of (THOREN), A., 839, 946. finely-divided, production of (Raney), (P.), B., 606. pure, uses of (McKay), B., 681. pure and technical (Mylius), B., 657.

plating of (GARDNER and FORD MOTOR Co.), (P.), B., 820. protective value of (Thomas and Blum), B., 681.

Nickel and its alloys with chromium, effect of, in iron (EVEREST), B., 703.

catalytic decomposition of esters by (РЕАВСЕ and ОТТ), A., 215. deoxidation of (MASING and КОСИ), B., 113.

precipitation of, from its salts by zinc and cadmium in ethyl alcohol (MÜLLER and THOIS), A., 31.

action of, on human sera (Siegler), A., 587. Nickel alloys (Fuller and Gen. Electric Co.), (P.), B., 682. with aluminium and copper, manufacture of (INTERNAT. NICKEL Co. and Mudge), (P.), B., 302.

with chromium, manufacture of (Dr. Bats and Dr. Bats Metals Co.), (P.), B., 784.

crystal structure of (Blake and Focke), A., 1017. analysis of (HARVEY), B., 879.

with chromium and iron, analysis of (HARVEY), B., 879.

with cobalt, electric, magnetic, and thermal properties of (MASUMOTO), A., 719.

thermal expansion of (MASUMOTO and NARA), A., 720. equilibria of (Masuмото), A., 21.

with cobalt and iron (Kasé), A., 803; (Walter), (P.), B., 337.

with copper (Cochrane and U.S. Industrial Alcohol Co.), (P.), B., 194.

electrical properties of (KIMURA and ISAWA), A., 104. colour of (VAN LIEMPT), A., 196.

with copper and tin (OZLBERGER), (P.), B., 560.

with gold and palladium (Fraenkel and Stern), A., 1030. with iron, magnetostriction of (MASUMOTO and NARA), A., 720. magnetic (Bell Telephone Laboratories), (P.), B., 144. electrodeposition of (GLASSTONE and SYMES), A., 633.

for metallic moulds (BAURET, PORTEVIN, and CHEVENARD), B., 656.

with molybdenum and chromium (Kelly), (P.), B., 847. with silver (ROTHERT and DERN), B., 681.

with zinc, electrodeposition of (GLASSTONE), A., 422.

Nickel bases :-

Nickelammine fluoborates (WILKE-DÖRFURT and BALZ), A., 120. Nickel compounds, containing univalent nickel (Manchor and Kaess), A., 1157.

Nickel salts, excretion of (Mascherfa), A., 992. physiological action of (Bertrand and Nakamura), A., 992. Nickel antimonide and telluride, crystal structures of (OFTEDAL), A., 924.

carbide (MEYER and SCHEFFER), A., 220.

chloride, crystal structure of (Ferrari), A., 1128.

fluosilicate, crystal structure of (Hassel and Salvesen), A.,

hydroxide, "modified," magnetic behaviour of (Veil), A., 614. oxide, crystal structure of (Bravo), A., 190. sulphate, crystal structure of (Westenbrink), A., 297.

disulphide (DE Jong and WILLEMS), A., 328.

Trinickel tetrasulphide, structure of (DE Jong and Willems).

Nickel organic compounds, with anylazophenanthrols (Crippa and VENTURINI), A., 1180. with biuret (TRAUBE and WOLFF), A., 232.

with ethyl mercaptan (MANCHOT and KAESS), A., 1157.

with glyoximes (Ponzio), A., 134; (Ponzio and De Paolini; Ponzio and Sismondi), A., 135.

complex, with oximes (TAYLOR and EWBANK), A., 58.

with ρ-phenylenediamine and tolylene-3:4-diamine (Feigl and Fürth), A., 1179.

Nickel arylazo-β-naphthylamines (CRIPPA), A., 352.

bisbenzeneazo-β-naphthylamine and -β-naphthol (Charrier and Beretta), A., 238.

bis-p-tolueneazo-β-naphthol (CHARRIER and BERETTA), A., 238.

carbonyl, liquid, preparation of (LAIRD), A., 533; (VAN DUIN), A., 743.

Nickel detection, determination, and separation: detection of, in presence of ferrous iron (KRAUS), A., 746. determination of (SPACU and DICK), A., 1047. determination of, colorimetrically (FAIRHALL), A., 127. determination of, with dicyanodiamidine (FLUCH), A., 37. determination of, electrolytically, in presence of iron (MARIE

and Bertheloot), A., 37. separation of, from alloys (Wenger and Rogovine), A., 333. Nickel matte, conversion of (Lellef and Internat. Nickel Co.),

(P.), B., 448. desulphurisation of (Internat. Nickel Co.), (P.), B., 560 "Nickel metals," electrodeposition of (MADSEN and MADSENELL Corp.), (P.), B., 116.

Nickel ores, silicate, recovery of nickel from (TATEBE), (P.), B.,

Nickel steel. See Steel, nickel, under Iron.

Nickel wire, magneto-spectroscopy of (ISRAEL), A., 99. hard-drawn, effect of annealing on specific resistance of (Roun), B., 487.

Nicotiana attenuata, isolation of nicotine from (Couch), B., 891. Nicotine, isolation of, from Nicotiana attenuata (Couch), B., 891. refractive index of (GIFFORD and LOWRY), A., 499.

density of aqueous mixtures of (Sata), A., 719.

decomposition of, in tobacco fermentation (Fodor and Reifen-BERG), A., 907.

additive compound of carbon suboxide with (DIELS and HANsen), A., 4Ī.

detection of, in tobacco (Heiduschka and Muth), B., 570. determination of, by application of ionic theory of acidity (Dubrisay), A., 680.

determination of, in tobacco (Young), B., 123; (Frank), B., 796; (Pfyl and Schmitt), B., 955.

Nicotine dusts, chemical tests of (HIXON and DRAKE), B., 891. Nicotinic acid, behaviour of, in mammals and birds (Komort and Sendju), A., 171.

bornyl and menthyl esters, sulphates (Wolffenstein), (P.), B.,

Nicotinuric acid, compound of pieric acid and (Sendju), A., 468. Niobium (Schoeller and Jahn), A., 32.

are and spark spectra of (McLennan and Liggett), A., 390. Niobium separation :-

and its mineral associates, analysis of (Schoeller and Jahn), A., 1047; (SCHOELLER and DEERING), B., 940. separation of, from titanium and tantalum (SCHOELLER and

DEERING), B., 940.

Nitella, penetration of basic dyes into (IRWIN), A., 72.

effect of salts on the penetration of brilliant cresyl-blue into (IRWIN), A., 277.

Niton. See Radon. Nitraldin, and its nitroso-derivative (ARNDT and PARTALE), A.,

Nitraldin, chloro- (Dale and Nierenstein), A., 564.

Nitrates. See under Nitrogen.

Nitration (Varma and Menon), A., 454; (Varma and Krish-namurthy), A., 552; (Battegay), (P.), B., 809; (Taylor, RICHARDSON, and DU PONT DE NEMOURS & Co.), (P.), B., 892. with nitrogen tetroxide (PINCK), A., 1177.

of aromatic compounds, effect of mercury salts on (McKie), A.,

with mixed nitrosulphonic and fuming nitric acids (RINKES), A., 143.

Nitric acid. See under Nitrogen.

Nitrification, influence of sunlight on (Zholtzinski), B., 151. of organic materials (Whiting), A., 596.

Nitriles, preparation of (Knoll & Co. and Schmidt), (P.), B., 172. hydrolysis of (Berger and Olivier), A., 1185.

velocity of addition of hydrogen sulphide to (KINDLER, TREU, and Fürst), A., 339.

condensation of, with phenols (Hoesch), A., 353; (Houben), A., 870; (Houben and Fischer), A., 1078.

condensation of thioamides with (ISHIKAWA), A., 758. rate of conversion of, into thioamides (KINDLER), A., 55.

of the perylene series, manufacture of (Bensa and Pongratz), (P.), B., 29.

tertiary, production of (I. G. FARBENIND. and FARBW. VORM. Meister, Lucius, & Brüning), (P.), B., 892. unsaturated aliphatic (MACQ), A., 652.

Nitriles, a-chloro, action of magnesium organic compounds on (Theunis), A., 653.

Nitrites. See under Nitrogen.

Nitroamide, dissociation constant of (Brönsted and King), A.,

Nitroamines, manufacture of (BENTLEY and BLYTH & Co.), (P.), B., 275.

Nitrocellulose. See Cellulose nitrate.

Nitro-compounds, formation of, from isonitro-isomers (Branch and JAXON-DEELMAN), A., 852.

oxidation by means of (SMITH and LYONS), A., 146. reduction of (I. G. FARBENIND.), (P.), B., S, 156.

by aromatic ketols (NISBET), A., 1063. with iron and soluble chlorides (Lyons and Smith), A., 234. Nitro-compounds, organic, catalytic reduction of (KAHN, MAYER, and Grasselli Dyestuff Corp.), (P.), B., 838*.

aromatic, reduction of (ADAMS, COHEN, and REES), A., 552; (VESELY and REIN), A., 757; (I. G. FARBENIND.), (P.), B., 579, 742.

relationships of azoxy-compounds with (Bigiavi), A., 553. action of persulphates on (RICCA), A., 660.

o-Nitro-compounds, action of diazomethane on (ARNDT, EISTERT, and Partale), A., 774.

Nitro-cotton, dehydrated, determination of alcohol in (CHENEL),

Nitrogen, structure of (Collins), A., 394, 606.

molecular aggregation and physical properties of (Keyes and TAYLOR), A., 507.

molecules, cross-sectional area of, against slow electrons (Brüche), A., 4, 492.

manufacture of (Arnold and Nitrogen Corp.), (P.), B., 140; (Minor and Anglo-California Trust Co.), (P.), B., 605. gas burners and apparatus for generators for (L'OXYHYDRIQUE

Française), (P.), B., 482. ionised, spectrum of (CROZE and GILLES; FOWLER and FREE-

MAN), A., 489. absorption spectrum of (SPONER), A., 496.

arc spectrum of (McLennan and McLay), A., 802.

band spectrum of (Sponer), A., 395.

second positive band spectrum of (Mulliken), A., 607; (Nakamura), A., 1005.

series spectrum of (Bowen), A., 285.

ultra-violet series spectrum of (HOPFIELD), A., 998. luminescence of, bombarded with cathode rays (McLennan,

IRETON, and THOMSON), A., 1007. electric discharge in (Günther-Schulze), A., 392.

electrodeless discharge in (Homès), A., 605.

transition of glow into are discharge in (Weireli), A., 909. ionisation of (Kallmann and Bredic), A., 604; (Dorson and

KALLMANN), A., 1001. ionisation potentials of (MILLIKAN and Bowen), A., 913.

ionisation in mixtures of rare gases with (HARNWELL), A., 709. critical potentials of (Levesley), A., 1008.

heats of dissociation of (Sponer), A., 1008.

ratio of specific heats of carbon dioxide and (Burlot), A., 301. thermal diffusion of carbon monoxide and (IBBS and UNDER-

wood), A., 616. density and atomic weight of (Moles; Moles and Clavera), A., 1120.

density, compressibility, and atomic weight of (Baxter and STARKWEATHER), A., 194.

compressibility of, and its mixtures with hydrogen (Bartlett), A., 404.

compressed, water vapour content of, and of its mixtures with

hydrogen (BARTLETT), A., 207. equation of state for (SMITH and TAYLOR), A., 104.

liquid, vapour pressure of (Dodge and Davis), A., 403.

liquid and solid, dielectric constants of (EBERT and KEESOM),

vapour pressures of (Henning), A., 194. solid, in the atmosphere (Pelzer), A., 801.

luminescence from (VEGARD), A., 91.

liquid-vapour phase equilibria for mixtures of oxygen and (DODGE and DUNBAR), A., 417.

adsorption of, at low pressures by activated charcoal (Charlin), A., 105.

combination of activated hydrogen and (CARESS and RIDEAL),

active (Johnson), A., 85; (Willey), A., 635; (Rudy), A., 1147. and its oxides, production of (Bone), (P.), B., 749*.

nature of (Levesley), A., 1008. spectra excited by (RUARK, FOOTE, RUDNICK, and CHENAULT),

A., 395. afterglow of (Bonhoeffer and Kaminsky), A., 801. electrical properties of (Constantinides), A., 916.

ionisation in (Constantinides; Rayleigh), A., 188. reactions of (Jolibois and Lefebyre), A., 1156.

reactions of gases with (WILLEY and RIDEAL), A., 431. reactions of, with metals (WILLEY), A., 1038. layers of, on tungsten (KENTY and TURNER), A., 913.

pure and atmospheric, solubility of, in distilled and sea water (Coste), A., 197.

synthetic, development of industry in Great Britain (Pollitt), B., 652.

Nitrogen, tervalent, stereochemistry of (ORTHNER), A., 975. fixation (Ficker), (P.), B., 652. as aluminium nitride (Krase, Thompson, and YEE), B., 73. by living cells (Burk), A., 488. solubility of, in protein solutions (STODDARD), A., 513. assimilation of phosphates measured by the bacterial fixation of (Truffaut and Bezssonoff), B., 729. minimal usage of (TERROINE and MATTER), A., 276. excretion of, on protein diet with added carbohydrate (FIRGAU, HARTMANN, and VOIT), A., 990. Nitrogen compounds, catalytic action of (Moureu, Dufraisse, and BADOCHE), A., 28. influence of adrenaline, pilocarpine, calcium, and potassium on excretion of (PINCUSSEN, WALTER, and COELHO), A., 276. Nitrogen trichloride, action of, with acetylene hydrocarbons and B-butylene (COLEMAN, OWEN, and RODRIGUEZ), A., 538. action of, on unsaturated ketones (COLEMAN and CRAIG), A., reaction of, with olefines (COLEMAN, CAMPBELL, and MULLINS), A., 553. monoxide (nitrous oxide), decomposition of, in the electric discharge (Joshi), A., 635. molecular heat of (Shilling), A., 301. thermal diffusion of carbon dioxide and (IBBS and UNDERwood), A., 616. value of, as anæsthetic (Brown, Lucas, and Henderson), A., 991. dioxide (nitric oxide), formation of, at high temperatures (BRINER, BONER, and ROTHEN), A., 121. lecture experiment to show synthesis of (Plésniewicz), A., recovery of, with production of nitrate and hydrochloric acid (Ross and Mehring), (P.), B., 43. band spectrum of (Jenkins, Barton, and Mulliken), A., 185, 916, 917; (Guillery), A., 496. ultra-violet absorption and emission spectra of (LAMBREY), A., 808. paramagnetism of (VAN VLECK), A., 493. positive-ray analysis of (Hogness and Lunn), A., 806. effect of a magnetic field on dielectric constant of (Morr-SMITH and DAILY), A., 92. absorption of (Schloesing), (P.), B., 252. chemical equivalence of carbon monoxide and (Manchot and PFLAUM), A., 1155. catalytic reduction of (Andrussov), A., 321. combustion of gases in (Dixon and Higgins), B., 513. influence of moisture on reaction between oxygen and (Briner), A., 214. reaction between ferrous hydroxide, ethyl mcrcaptan, and (Reihlen and v. Friedolsheim), A., 951. compound of, with sulphur trioxide (Manchot, König, and REIMLINGER), A., 32. determination of, by adsorption in ferrous chloride (Morris), A., 435. tri- and tetr-oxides, constitution of, and their compounds with tin and titanium tetrachlorides (REIHLEN and HAKE), A., 219. per- or tetr-oxide, photochemical equilibria in (Norrish), A., 528. specific heat of (McCollum), A., 193. liquid, density and vapour pressure of (MITTASCH, KUSS, and SCHLUETER), A., 104. dried, vapour pressure of (SMITH), A., 506. use of, in organic nitrations (PINCK), A., 1177. determination of, in air (Kohn-Abrest), B., 251. pentoxide, decomposition of (Norrish), A., 119. by light (Fazel and Karrer), A., 29. in presence of gases (Busse and Daniels), A., 635. velocity of decomposition of (Thomson), A., 212. oxides, adsorption of (Schloesing), (P.), B., 813. from ammonia oxidation (Toniolo), B., 251. recovery of (Jones, Beavers, Fairlie, Houser, Tennessee Copper & Chemical Corp.), (P.), B., 107. ammonia as source of, for chamber acid plants (KILLEFFER), separation of, from ammonia oxidation gas (KRASE), B., 10. Nitric acid, manufacture of (CUNO), B., 72; (TONIOLO), (P.), B., 364, 365*; (NELLIS and TROJAN POWDER CO.), (P.), B., 652; (METALLBANK & METALLURGISCHE GES., DEUTS. Sprengstoff A.-G., Melzer, and v. Boltenstern), (P.), B., 813. and its salts (KASSNER), (P.), B., 218, 300*.

Nitrogen :-Nitric acid, manufacture of, from ammonia (PARSONS), B., 651. absorption of nitrogen oxides in (TONIOLO), B., 440. concentration of (KALTENBACH), (P.), B., 329; (STRZODA), B., 651. concentrated, production of (UEBEL), (P.), B., 876; (ELEK-TRIZITÄTSWERK LONZA and LÜSCHER), (P.), B., 937. equilibrium of potassium nitrate, water, and (MALQUORI), A., equilibria of sodium nitrate and (Angus and Dawson), A., 111. standards for, as reagent (RAKOVSKI), A., 534. and its salts, detection of (Buznea and Cernatesou), A., 534. detection of, with ferrous sulphate (Popov), A., 1160. Nitrates, manufacture of (DOMINIK), (P.), B., 330. by oxidation (ASKENASY, ELÖD, and ZIELER), A., 635. from calcium cyanamide (Hofmann), (P.), B., 652. absorption spectra of (Morton and Riding), A., 90. crystalline, magnetic anisotropy of (Krishnan and Raman), A., 925. reduction of, by insoluble iron compounds (Boresch), B., 10. toxicology and biochemistry of (Kohn-Abrest and Kavakibi), A., 482 double (WILCOX and BAILEY), A., 205. detection of (EEGRIWE), A., 125. detection of, in presence of nitrites (WARE), A., 638. detection and determination of nitrites and (EISENBRAND), A., 638. determination of, with diphenylamine sulphate (Tassilly and Savoire), A., 35. determination of, with "fornitral" (MESTREZAT and DELA-VILLE), A., 330. determination of nitrogen in (VAN NIEUWENBURG and DE Groot), A., 534; (Pizzarelli), B., 187. determination of, in soils (FLINT), B., 826. Nitrous acid, decomposition of, in aqueous solution (TAYLOR, Wignall, and Cowley), A., 943. action of, on amino-compounds (HYND and MACFARLANE), reactions of dyes with (DUBSKÝ and OKÁČ), A., 688. detection of (Dubský and Okač), A., 1160. detection of phenols by (GIBBS), A., 475. Nitrites, inhibition of toxicity of (Hesse), A., 1219. detection of (EEGRIWE), A., 125. detection and determination of nitrates and (EISENBRAND), A., 638. determination of, with diphenylamine sulphate (Tassilly and SAVOIRE), A., 35. determination of, in replacement of nitro-groups by ethoxyl or hydroxyl groups (Clark and Carter), A., 474. Nitrogen sulphide (Vosnessenski), A., 741. Nitrogen organic compounds, production of (SCHMIDT, ZUTAVERN, and Knoll & Co.), (P.), B., 974. effects of penetrating radium rays on (KAILAN), A., 290. heterocyclic, stereochemistry of (ORTHNER), A., 975. Nitrates, aliphatic, refractometric analyses of mixtures of (RINKENBACH), B., 958. Nitrogen determination :rapid boiling in determination of (SHEDD), B., 954. determination of, microchemically (Suto), A., 996. determination of, by the Davis-Lunge method (PINKUS and Jacobi), A., 952 determination of, by the micro-Dumas method (OGAWA), A., 1160. apparatus for determination of, by Kjeldahl's method (HASTINGS, FRED, and PETERSON), A., 438. titration of distillates in determination of, by the Kjeldahl method (Wilson and Mattingley), A., 35. amines in distillates in Kjeldahl determinations of (Gortner and Hoffman), A., 80. determination of, by micro-Kjeldahl method (VAN SLYKE), A., 388. apparatus for collection of ammonia in determination of (KATT-WINKEL), A., 846. determination of, by Nessler's reagent (SJOLLEMA and SEEKLES), determination of, in alkaloids (GUILLAUME), A., 887. determination of, in blood (KLEINMANN), A., 370. determination of, in coal (VAN STEENKISTE), (P.), B., 33.

determination of, in fertilisers (MOORE and WHITE), B., 535.

Nitrogen determination :-

determination of, in heating and illuminating gas (STEVER), B.,

determination of, in organic compounds (SMITH and WEST), A.,

166; (Lustic), A., 891. determination of, in plants (RANKER), B., 536.

determination of, in soils (Brown), B., 536.

amino-, primary aliphatic, determination of (Kupelwieser and SINGER), A., 69.

Nitrogenous materials, detection and determination of nitrogenous chemicals added to (Moore and White), B., 731.

Nitroglycerin. See Glyceryl trinitrate.

Nitro-groups, influence of, on reactivity of substituents in benzene nucleus (DADSWELL and KENNER), A., 456.

β-ψ-Nitrole-ay-diphenylpropane (RHEINBOLDT and DEWALD), A.,

Nitrometer for small volumes of gas (Klemenc and Hayek), A.,

Nitron fluorosulphonate (Lange), A., 532.

Nitropentamminecobaltic thiosulphate. See under Cobalt. Nitroprussic acid, salts, colour reactions of (Cambi), A., 346. reaction of alkalis with (CAMBI and SZEGÖ), A., 917.

sodium salt, reactions of (TARUGI), A., 46.

Nitrosamine-groups, secondary, determination of (Lehmstedt), A.,

Nitrosisulphonic acid (RASCHIG), A., 432.

Nitroso-derivatives, reactions of, with unsaturated compounds (Alessandri), A., 572.

Nitrosyl chloride, production of mixtures of chlorine and (Domi-NIK), (P.), B., 330.

separation of, from chlorine (Dominik), (P.), B., 778. thermal decomposition of (Taylor and Denslow), A., 403. action of, on aromatic aldoximes (RHEINBOLDT, DEWALD, JANSEN, and SCHMITZ-DUMONT), A., 245.

action of, on ketones (LYNN and LEE), A., 544. compounds of, with metallic salts (GALL and MENGDEHL), A.,

compounds of inorganic chlorides with (RHEINBOLDT and Wasserfuhr), A., 431.

reactions of (RHEINBOLDT and DEWALD), A., 229, 851; (RHEIN-BOLDT, DEWALD, JANSEN, and SCHMITZ-DUMONT), A., 245.

fluoborate (WILKE-DÖRFURT and BALZ), A., 121. fluorosulphonate (LANGE), A., 532.

thiocyanate (LECHER and GRAF), A., 46.

Nitrosylethylmercaptide. See Ethyl thionitrite.

Nitroxyl, reactions of, with aromatic nitro-derivatives and azoxycompounds (BIGIAVI), A., 142.

Nitzschia closterium, vitamin-D in (LEIGH-CLARE), A., 488. Nodakenetin, and its acetyl derivative (ARIMA), A., 599.

Nodakenin (ARIMA), A., 599. Nomograms in analysis (REINER), A., 124.

Nonamethyltrihexosan (HESS and MICHEEL), A., 1058.

Nonane, ϵ -bromo-, and ϵ -chloro- (GRIGNARD and ONO), A., 130. n-Nonyl bromide (Tomecko and Adams), A., 339.

n-Nonylaminoisohexoethylamide, and its hydrochloride (v. Braun and Münch), A., 345.

Nopinene, hydration of (Austerweil and Petrovici), A., 156; (Austerweil), A., 1082.

synthesis of l-a-pinene from (Austerweil), A., 60.

Nor-bases, preparation of (Polonovski and Polonovski), A., 1208. Norcholanic acid, and its esters (WIELAND, SCHLICHTINO, and Јасові), А., 247.

Norcholyldimethylcarbinol, and its derivatives (WIELAND, SCHLICHTING, and JACOBI), A., 247.

Norcholyl methyl ketone, and its derivatives (Wieland, Schlich-TING, and JACOBI), A., 248.

Normeconinecarboxylic acid. See Phthalidecarboxylic acid, 3:4-dihydroxy-

Normethylstrychnine, and its salts (CLEMO, PERKIN, and ROBINson), A., 889.

Nornicotine, and its salts and derivatives (Polonovski and Polonovski), A., 785.

Nortropinone, salts of (Polonovski and Polonovski), A., 1208. Nosean, X-ray structure of (JAEGER, WESTENBRINK, and VAN Melle), A., 715.

Novocaine, detection of, colorimetrically (RIEGEL and WILLIAMS), B., 58.

Nucleic acid, action of, with guanidine (WHITE), A., 548. nitrogenous groups of (CALVERY and JONES), A., 686. determination of, in organs (ALDERS), A., 371.

Nucleic acids, and their derivatives, calorimetry of (Ellinghaus),

Nucleosidases (v. Euler and Brunius), A., 901.

Nut kernels, treatment of (Thompson and Hough), B., 155. Nutmeg butter, preparation of myristic acid from (Verkade and Coops), A., 854.

Nutrient solutions with stable hydrogen-ion concentrations (ZIN-ZADZE), A., 908.

Nutrition (PLIMMER, ROSEDALE, and RAYMOND), A., 904, 905; (PLIMMER, ROSEDALE, RAYMOND, and LOWNDES), A., 1223. variations in (Berczeller and Wastl), A., 388.

effect of, on synthesis and oxidation (PALLADIN and FERD-

mann), A., 480.

Nutrose (RAKUZIN and BRAUDO), B., 154. Nux vomica, manufacture of brucine and strychnine from

(WATSON and SEN), B., 427.

Oak. See Quercus sessiliflora. Kumaon. See Quercus incana;

Oak wood, leaching of (Pavlovitsch), B., 230.

Oats, net energy values of (Forbes, Braman, Kriss, Fries, JEFFRIES, SWIFT, FRENCH, and MANCHER), B., 712.

antagonism between chlorides used in large amounts and sulphates in development of (Blanchard and Chaussin), B., 760.

assimilation of phosphorus from phytin by (Whiting and НЕСК), В., 120.

See also Avena sativa.

Oat flour. See under Flour.

Oat hulls, furfuraldehyde from (Brownlee), B., 346.

Ochres, composition of (BIGOT), B., 253.

Octa-acetylmaltobiononitrile (ZEMPLEN), A., 859.

n-cis-Octadecane-aik-triol. See Elaidicerin. n-trans-Octadecane-aik-triol. See Oleicerin.

n-trans- Δ -Octadecen- α -ol. See Oleyl alcohol. $\Delta a\eta$ -Octadi-inene, and its silver salt, and $\beta\eta$ -dibromo- (Lespieau

and Deluchat), A., 39. s-Octahydroanthracene, mono- and di-bromo-, 9-bromo-10-

amino-, and its hydrochloride, 9-bromo-10-nitro-, 9-iodo-, and 9:10-dinitro- (Schroeter and Götzky), A., 1178.

s-Octahydroanthracenesulphonic acid, and 9-bromo-, and its sodium salt and chloride (Schroeter and Götzky), A., 1178. Octahydroanthranol, and its derivatives (I. G. FARBENIND. and

RIEDEL A.-G.), (P.), B., 597. Octahydroanthraquinone (I. G. FARBENIND. and RIEDEL A.-G.),

(P.), B., 597. 1:2:3:4:7:8:9:10-Octahydrobenzacridine, and its salts (v. Braun

and Zobel), A., 258. 1:2:3:4:7:8:9:10-Octahydrobenzacridine-5-carboxylic acid (v. Braun

and Zobel), A., 258. Octahydronaphthalene (MADAEV-SITSOHEV), A., 234.

Octamethyltetraaminotetraphenylethanol (RODD and LINCH), A., 1067.

Octamethyletraaminotetraphenylethylene, salts of (Wizinger and Fontaine), A., 764.

Octamethyl-lactobionic acid, methyl ester (HAWORTH and LONG), A., 450.

Octamethylmaltobionic acid, methyl ester (HAWORTH and PEAT), A., 135.

Octamethylporphin (Fischer, Halbig, and Walach), A., 469. n-Octane, preparation of (Lewis and Yche), A., 440.

crystal structure of (McLennan and Plummer), A., 816. equilibrium of sulphur dioxide and (SEYER and GALLAUGHER), A., 517.

n-Octane, $\beta\theta$ -dibromo- (Chuit, Boelsing, and Malet), A., 446. $\beta\beta$ -chloronitro-, and $\beta\beta$ -chloronitroso- (Rheinboldt and DEWALD), A., 852.

β-Octanol, γ-bromo- (KIRRMANN), A., 751.

Δα-Octenylurethane (RINKES), A., 45.

Octhracenesulphonic acid. See s-Octahydroanthracene-9-sul-

phonic acid. $\Delta\beta$ -Octinene, α -bromo-, and its hydrobromide (v. Braun and TAUBER), A., 1179. Octoic acid, adsorption of, by silver iodide (FRUMKIN and

OBRUTSCHEVA), A., 617. Octoylsalicylic acid (KAUFMANN), B., 155. a-isoOctylvalerolactone (DARZENS), A., 40.

Ocnothera biennis (evening primrose), constituents of (Klapholz and Zellner), A., 283. Ohm's law, deviations from (WIEN), A., 940. Oidium lactis, fission of a-aminophenylacetic acid by (Chikano and KITANO), A., 596. Oil or Oils, bleaching of (BOLLMANN), (P.), B., 227. bleaching action of fuller's earth on (NEUMANN and KOBER; Keppeler), B., 493. crude, distillation of (TINKER), (P.), B., 741. fluorescent, manufacture of (LILIENFELD), (P.), B., 518*. viscous, production of, from cracked distillates (Braunkoulen-PRODUKTE), (P.), B., 245. determination of colour intensity of (FONROBERT), B., 147. determination of phosphorus in (VAN DEN DRIESSEN MAREEUW), B., 27; (Sticu), B., 851. determination of water in (PFLUG), B., 834. Oils, animal, extraction of (Allbright-Nell Co. and Laabs), (P.), B., 495* production of light hydrocarbons from (Florentin, Kling, and Matignon), (P.), B., 836. marine (André and Canal), B., 416; (André and François), B., 584, 706. heats of combustion of (MARCELET), B., 304. utilisation of, in motors (Lumet and Maroelet), B., 736. determination of physical constants of (MAROELET), B., 754. and vegetable, refining of (HERRNDORF), (P.), B., 258; (FORAY), (P.), B., 563.
anti-corrosion (Wilkin and Standard Oil Co.; Lechler Co. and Mezger), (P.), B., 549.
"blown," acid and "tar-forming" values of (Heyden and Түрке), В., 34. drying, action of cathode rays on (Long and Moore), B., 755. exidation of (EIBNER and MUNZERT), B., 417. action of a-naphthol as negative catalyst in oxidation of (Morrell), B., 945. action of sulphur dioxide and water on (LAURIE), B., 196. tertiary bromine-iodine values of (VAUBEL), B., 49. and polymerising, manufacture of (KESSLER), (P.), B., 304. edible, extraction of odorous constituents of (FURBO), (P.), B., 795. vitaminised, production of (OWE), (P.), B., 304. Oils, essential (IMPERIAL INSTITUTE), B., 617. extraction of, from plants (Foray), (P.), B., 398. temperature coefficients for specific gravities and rotations of (Schoorl), B., 733. colour reactions and constituents of (EKKERT), B., 859. solvent for (Thomssen and Watkins Co.), (P.), B., 60. Australian, germicidal values of (Penfold and Grant), B., 458. of Crimean plants (NILOV and WILLIAMS), B., 956. from Greece (Gasopoulos), B., 505. analysis of (Treff), B., 59. Crismer test for (ANGELETTI), B., 506. detection of adulteration of, with alcohol (DAVID), B., 124. determination of cineole in (Essential Oil Sub-Committee), B., 506. Oils, essential. See also :-

Acetone oil.

Bergamot oil.

Cajuput oil.

Caraway oil.

Citrus oil.

Ergot oil.

Dill seed oil.

Cedarwood oil.

Chenopodium oil. Citronella oil.

Eriostemon Coxii.

Eucalyptus oil.

Fennel seed oil.

Gingergrass oil.

Lavandula vera.

Lavender oil.

Dictamnus fraxinella.

Hypericum perforatum. Laurus nobilis.

Apricot kernel oil.

Bitter orange oil.

Calamintha nepeta.

Chamaecyparis nootkatensis.

Anise oil.

Ledum grænlandicum. Lemon oil. Leptospermum lanigerum. Mandarin oil. Mentha aquatica, piperita, pulegium, and sylvestris. Monardella oil. Palmarosa oil. Pelargonium oil. Peppermint oil. Phebalium dentatum. Pinus sylvestris. Pistacia mutica.

Pittosporum undulatum.

Pulegone oil. Rosa da mascena. Rosemary oil. Rosmarinus officinalis. Siler trilobum.

Star anise oil. Supa oil. Turmerie oil.

Xanthorrhœa. Zieria macrophylla. Oils, ethercal, iodine-bromine values of (WINKLER), B., 669. Oils, fatty, extraction of (L. J. and A. SIMON, and SIMON BROS.), (P.), B., 49; (Eichengrün), (P.), B., 495. from oleaginous materials (KAMMERMANN), (P.), B., 196*. apparatus for, from fish (SHJLER), (P.), B., 946. non-polymerised (Eurlich), (P.), B., 170. apparatus for distillation of solvents used in (Simon and Ŝimon Bros.), (P.), B., 946. crude, treatment of (METALLBANK & METALLURGISCHE GES.), (P.), B., 821. refining of (QUICK), (P.), B., 83; (RESINES and BY-PRODUCTS RECOVERY Co.), (P.), B., 304.

removal of suspended matter from (HEY), (P.), B., 563. vegetable, purification and regeneration of (BAUDOUIN and

Basset), (P.), B., 196. drying of (Blom), B., 371; (Slansky), B., 787. theory of (Auer), B., 145.

drying of films of (AUER), A., 822. drying and thickening of (Scheiber), B., 118. deodorisation of (ROBERTSON), (P.), B., 258. polymerisation of (CABOT), (P.), B., 531.

ultra-violet absorption spectra of (Lewkowitsch), B., 660. spontaneous heating of (THOMPSON), B., 339.

non-liquid disperse systems of (AUER), A., 824. oxidation of (HANSEN), (P.), B., 340.

oxidation in drying and thickening of (AUER), B., 495. reduction of auto-oxidation of (RECHBERG GES., BRAUN GES., and OESTERMANN), (P.), B., 883.

saponification of (RICHARDSON, CONLEY, and PROCTER & GAMBLE Co.), (P.), B., 585; (I. G. FARBENIND. and FARBW. vorm. Meister, Lucius, & Brüning), (P.), B., 660. by alkalis (McBain, Howes, and Thorburn), B., 145.

recovery of agent used in (Petrov), (P.), B., 755.

recovery of (Powling), (P.), B., 495.

recovery of, from fish meal, guano, etc. (Bradshaw), (P.), B., 530. preservation of (NITARDY and SQUIBB & SONS), (P.), B.,

for leather treatment, stalagmometric tests on (Schindler),

B., 608. scalp-treating (ELIADES), (P.), B., 18.

sampling and analysis of (AMER. CHEM. SOCIETY COMMITTEE). B., 117.

determination of acidity of, with isopropyl alcohol as solvent (Schuette and Smith), B., 117.

Maize oil.

Olive oil.

Palm oil.

Paprika oil.

Perilla oil.

Rape oil.

Tall oil.

Parsleyseed oil.

Ray liver oil.

Secale cornutum.

Thevetia neriifolia.

Shark liver oil.

Spermaceti oil.

Tea-seed oil.

Tung oil.

Whale oil.

Wheat oil.

Sardine oil.

Menhaden oil.

Mackey test for (v. Nabell), B., 883.

bromine-iodine values of (VAUBEL; WINKLER), B., 883. determination of iodine value of (FIALKOV), B., 304, 946.

Oils, fatty. See also :-Anona squamosa. Bombax heptaphyllum. Capybara oil. Castor oil.

Cedar oil. Centrophorus granulosus. $Cerbera\ odollum.$ Chaulmoogra oil. Cockchafer oil. Coconut oil.

Cod liver oil. Coffee nut tree seed oil. Cottonseed oil.

Grapeseed oil. Ground-nut oil. Holarrhena antidysenterica.

Hydnocarpus wightiana. Kuromoji oil. Linseed oil. Lumbang oil.

Oils, heavy, cracking of (Bowie), B., 517. decomposition of (HERNU), (P.), B., 245.

manufacture of gas from (Chilowsky), (P.), B., 867. Oils, hydrocarbon, treatment of (HOLMES and TEXAS Co.), (P.), B., 386; (COULTAS), (P.), B., 516.

apparatus for (J. P. and M. E. Persch), (P.), B., 100*; (HOPKINS), (P.), B., 386.
recovery of lead sulphide from (LITHARGE RECOVERY Co. and KINSEL), (P.), B., 626.

manufacture of medium for (SCHLOSSTEIN), (P.), B., 836. cleaning of (JACKSON), (P.), B., 386.

Oils, hydrocarbon, purification of (LINTON; SHARPLES SPECIALTY Co. and Clark; Prutzman, Barton, and Gen. Petroleum CORP.), (P.), B., 7; (MORRELL, COMAY, and UNIVERSAL OIL PRODUCTS Co.), (P.), B., 437; (I. G. FARBENIND.), (P.), B., 645.

containing sulphur (STANDARD DEVELOPMENT Co.), (P.),

B., 931.

refining of (Egloff, Benner, and Universal Oil Products Co.), (P.), B., 163; (COBB and STANDARD DEVELOPMENT Co.), (P.), B., 273; (ALLOEM. GES. F. CHEM. IND.; MCMICHAEL and Hydrocarbon Refining Process Co.), (P.), B., 806; (PHILLIPS, STAFFORD, and SINCLAIR REFINING CO.; (Howсотт), (Р.), В., 962

manufacture of clarifying and decolorising agent for (Chappell, DAVIS, MOORE, and CONTACT FILTRATION Co.), (P.), B.,

bleaching of (Salisbury), (P.), B., 626.

composition for bleaching and desulphurisation of (REINBOLD), (P.), B., 7.

desulphurisation and hydrogenation of (BISHOP), (P.), B., 134. reactivation of desulphurising agents for (RATHER, SHEPHERD, and STANDARD OIL CO. OF NEW YORK), (P.), B., 437.

distillation of (STRATFORD; PRIMROSE and Power Specialty

Co.), (P.), B., 274.

continuous distillation of (CARRINGER and STANDARD DEVELOP-MENT Co.), (P.), B., 900.

distillation and cracking of (TINGLEY), (P.), B., 516.

distillation of residues from (CLARK and STANDARD DEVELOP-MENT Co.), (P.), B., 437.

stills for (Moore and Vandervort), (P.), B., 7.

distillation column for (PAULUS, BREWSTER, and STANDARD On. Co.), (P.), B., 210.

cracking of (Pollock and Universal Oil Products Co.; Weaver and Oil Products Co.), (P.), B., 6; (Jenkins), (P.), B., 134; (Schneider and Standard Oil Co.; Howard and Standard Development Co.), (P.), B., 162; (EGLOFF, BENNER, and UNIVERSAL OIL PRODUCTS Co.), (P.), B., 245; (Internat. Bergin-Comp. voor Olie- en Kolen-Chemie; Wellman and Kansas City Gasoline Co.), (P.), B., 273; (Armstrong; Owens; Parmelee and Sinclair Refining Co.; Amend; Paris; Darlington, Steffen, and Schuster), (P.), B., 274; (Trent and Trent Process Corp.), (P.), B., 291; (Clancy), (P.), B., 385; (Faragher, Gruse, and Gulf Refining Co.), (P.), B., Cott Till, (P.) 469*, 771*; (Dubbs and Universal Oil Products Co.), (P.), B., 517, 961; (Chem. Research Syndicate and Weaver), (P.), B., 674*; (Huff and Universal Oil Products Co.), (P.), B., 961.

conversion of (Dubbs and Universal Oil Products Co.),

(P.), B., 626.

pyrogenetic conversion of (Howard, Clark, Carringer, and

STANDARD DEVELOPMENT Co.), (P.), B., 182

preparation of an adsorbent for (RIAL and GARD), (P.), B.,

solvents for separating aliphatic and aromatic hydrocarbons in (Göhre), B., 131.

apparatus for separation of, from gas (Bell and Lorraine), (P.), B., 323.

separation of, from mineral matter (Mallet), (P.), B., 273. removal of, from oil sands (ARMSTRONG), (P.), B., 163. sweetening of (Paulus and Standard Oil Co.), (P.), B., 548.

use of ethyl sulphate in examination of (TAYLOR), B., 514. heavy, effect of higher aliphatic acids on surface tension of

(GILBERT), A., 510.

conversion of, into light oils (WRIGHT and ESLING), (P.), B., 181; (DONNELLY), (P.), B., 356; (AB-DER-HALDEN; LASHER and KANSAS CITY GASOLINE CO.), (P.), B., 357; (NORTHRUP), (P.), B., 741.

high-boiling, conversion of, into stable low-boiling oils (Thomas),

(P.), B., 100*.

Oils, light, preparation and recovery of, from crude mineral or shale oil, tar oils, or carbonaccous materials (Schultz), (P.), B., 868

refining and desulphurisation of (RIEBECK'SCHE MONTAN-

WERKE), (P.), B., 695.

removal of, from gases (I. G. FARBENIND. and A.-G. FÜR ANLIN-FABR.), (P.), B., 357.

lubricating. See Lubricating oils. Oils, mineral, formation of, from ethylene and its homologues (Отто), В., 930.

Oils, mineral, treatment of (HUFF and UNIVERSAL OIL PRODUCTS Co.), (P.), B., 291; (EGLOFF, HOWARD, and UNIVERSAL OIL PRODUCTS Co.; WRIGHT), (P.), B., 436; (KELLEY), (P.), B., 901*.

with aluminium chloride (HALL and TEXAS Co.), (P.), B., 931. revivification of spent adsorbents for (PRUTZMAN and CONTACT

FILTRATION Co.), (P.), B., 771.

purification of (RIDGE and HODGKINSON), (P.), B., 68*; (HOLFORD and HARVEY), (P.), B., 596*; (WEBER), (P.), B., 741.

centrifuges for (AKTIEBOLAGET SEPARATOR and MILLER), (P.), B., 961.

purification and dehydration of (APPARATEBAU), (P.), B., 182.

refining of (Parker and Mathieson Alkali Works), (P.), B., 357, 436; (Allgem. Ges. für Chem. Ind.; Leaver and Imperial Oil), (P.), B., 771; (Hellthaler and Stinnes-Riebeck Montan & Ulwerke), (P.), B., 836*, 868*.

and their distillates (Fraser), (P.), B., 645.

with sulphur dioxide (ART.-GES. FÜR CHEM. IND.), (P.),

purification of waste acid from (DEMANN), (P.), B., 436.

apparatus for separation of gasoline from (PEW, THOMAS, and ้รีบห Oil Co.), (P.), B., 931.

separation of, from sand or rock (FYLEMAN), (P.), B., 182*. apparatus for separation of, from water (Andresen), (P.),

B., 291.

removal of wax from (Hall and De Laval Separator Co.), (P.), B., 291; (BATAAFSCHE PETROLEUM MAATSCHAPPIJ and Schönfeld), (P.), B., 836.

bleaching of (MAILHE), (P.), B., 291.

dehydration of (PRIMROSE and Power Specialty Co.), (P.), B., 163; (BORN, BONNETTE, WALKER, and EMPIRE GASOLINE

Co.), (P.), B., 961.

distillation of (Howard, Loomis, and Standard Development Co.), (P.), B., 273, 806; (NEUMANN and STEINSCHNEIDER), (P.), B., 291; (TRENT and TRENT PROCESS CORP.), (P.), B., 771*; (COAST and DOHERTY RESEARCH CO.; MANLEY and Texas Co.), (P.), B., 806; (RED RIVER REFINING Co. and SCHULZE), (P.), B., 835.

continuous distillation of (BLÜMNER), (P.), B., 468, 695. apparatus for (Hess), (P.), B., 134.

with aluminium chloride (McAfee and Gulf Refining Co.), (P.), B., 741.

fractional distillation of (Weller, Link, and Standard Development Co.), (P.), B., 163.

distillation and condensation of (Bell and Sinclair Refining Co.), (P.), B., 595.

distilling and refluxing unit for (ARMSTRONG), (P.), B., 245. purification of distillates of (BURMAH OIL Co. and WORSLEY), (P.), B., 35.

apparatus for cooling vapours of (GRISCOM-RUSSELL Co. and

PRICE), (P.), B., 36. condensation of (Buerger and Gulf Refining Co.), (P.), B., 386.

cracking and distillation of (MOTOR FUEL CORP., RICHEY, and

DUFFEE), (P.), B., 100*. cracking of (PRICHARD and GULF REFINING Co.), (P.), B., 181; (Soc. Luxembourgeoise Hydrocarbures and Brime-YER), (P.), B., 357; (SACHANOV and TILITSCHEEV), B., 576; (SEELIG), (P.), B., 805, 836; (LONGHI; EGLOFF and UNIVERSAL OIL PRODUCTS CO.; HESS), (P.), B., 806; (CROSS and GASOLINE PRODUCTS CO.), (P.), B., 868.

and carbonisation of coal (TRENT), (P.), B., 100. apparatus for (Werschen-Weissenfelser Braunkohlen and Fürth), (P.), B., 695, 961; (Kay), (P.), B., 900.

Blümner cracking process for (Lohmann), B., 179. improvement of (Siemens & Halske), (P.), B., 695.

artificial ageing of (EVERS and SCHMIDT), B., 98

polymerisation of (BARRETT Co. and MILLER), (P.), B., 722. testing viscosity of (Schlüter), B., 693.

solubility of oxygen, carbon dioxide, and nitrogen in (KUBIE), solubility of paraffin wax in (Sullivan, McGill, and French),

B., 960. destructive hydrogenation of (I. G. FARBENIND.), (P.), B.,

burning of, in wick-fed lamps (KEWLEY and JACKSON), B.,

642.

Oils, mineral, heat treatment of, to obtain low-boiling oils Perelis), (P.), B., 548. production of hydrocarbons and their derivatives from (I. G. FARBENIND.), (P.), B., 740. conversion of, into low-boiling hydrocarbons (Todt and SUMPF), (P.), B., 356; (BUERGER and GULF REFINING Co.; GULF REFINING Co.), (P.), B., 357. production of liquid hydrocarbons from (LAMPLOUGH and Hodgson), (P.), B., 899. oxidation of (Haslam and Frolich), B., 355. effects of catalysts on (Cupit), B., 960. action of ozone on (Dover and Cromwell), B., 514. manufacture of derivatives of (ALLEMAN and SUN OIL Co.), (P.), B., 962. residual products of (BARTELS and STANDARD OIL Co. OF California), (P.), B., 181. heavy, manufacture of gas from (Chilovsky), (P.), B., 805. non-emulsifiable, of high dielectric strength (Maitland and SUN OIL Co.), (P.), B., 181. flash-point tester for (JENTZSCH), (P.), B., 274. determination of hard asphalt in (Marcusson), B., 402; (Bourgom), B., 594. determination of water in (Boller), B., 272. See also Petroleum. Oils, motor, Conradson coke-test for (Schulz and Kohout), B., 547. petroleum. See Petroleum oils. transformer. See Transformer oils. turbine, evaluation of (Rogers and Miller), B., 355. unsaturated, addition of iodine to (VAN DER STEUER), B., 494, 562. vegetable, musk aroma of (Kerschbaum), A., 541. deodorisation, clarification, and neutralisation of (FORAY), (P.), B., 851. splitting of (Allgem. Ges. Chem. Ind.), (P.), B., 258. distillation of fatty acids obtained from (BACH), B., 882. production of light hydrocarbons from (Florentin, Kling, and MATIGNON), (P.), B., 836. volatile, determination of low concentrations of, in emulsions (Baldwin), B., 725. Oil films, drying of (EIBNER and MUNZERT), B., 707. Oil fuel. See under Fuel. Oil gas. See under Gas. Oil palm, apparatus for treatment of fruits of (KRUPP GRUSON-WERK), (P.), B., 787. Oil red-O-pyridine (Proescher), A., 586. Oil residues, treatment of (BATAAFSCHE PETROLEUM MAAT-

SCHAPPIJ and Moser), (P.), B., 806.

Oil seeds. See under Seeds. Oil shale. See Shale oil.

Oil wells, helium in gases from (Butescu and Atanasiu), B., 580. Oleaginous materials, extraction of, with volatile solvents (SAVAGE), (P.), B., 946. Oleander, constituents of (TAUBER and ZELLNER), A., 386.

Oleandrins (TAUBER and ZELLNER), A., 386.

Olefines, preparation and treatment of (Petroleum Chemical CORP., DAVIS, and MURRAY), (P.), B., 403.

hydrated, production of (Johannsen and Gross), (P.), B., 173*.

reaction of nitrogen trichloride with (COLEMAN, CAMPBELL, and Mullins), A., 553.

Oleic acid, pure, preparation of (Scheffers), A., 645; (Bertram), A., 750.

configuration of (BÖESEKEN and BELINFANTE), A., 132. purification of, and its dibromide (HOLDE and GORGAS), B., 83. hydrogenation of, with active hydrogen (WATERMAN and BERTRAM), A., 1053; B., 227. oxidation of, by perbenzoic acid (PIGULEVSKI and PETROVA),

 $\Lambda_{.}, 447.$

potassium hydrogen salt (McBain and Stewart), A., 750. sodium salt, effect of substances on surface tension of solutions

of (Мікимо), А., 306. rate of evaporation of dilute solutions of (Du Noüy), A., 510. phenyl ester (SKRAUP and BENG), A., 560.

determination of, in mixtures with elaidic acid (VAN DER STEUER), B., 562.

Oleic acid, dibromohydroxy- and hydroxy- (MATTHES and Schütz), В., 891.

Oleic series, acids of (HILDITCH), A., 540. Oleicerin (André and François), A., 958.

Olein, prevention of autoxidation of (BAG and Novikov), B., 562: Oleomargarine, manufacture of (Leroudier), (P.), B., 503. Oleum. See Sulphuric acid, fuming, under Sulphur.

Oleyl alcohol, and its derivatives (André and François), A., 957. Oleyl- β -naphthylurethane (André and François), B., 706.

Olive oil, changes in, after long keeping (Brooks), B., 660. rancidification and oxidation of (LLoyp), B., 945.

saponification of (FINCH and KARIM), B., 49. Olive oil, experiments on, at Ghaba (Rousseau), B., 754. adulteration of, with tea-seed oil (CAULKIN), B., 608.

sulphur, soap colour test of (TREVITHICK and DICKHART), B.,

determination of purity of (MILANI), B., 915. Omentum, enzymes of (Goldberg), A., 1104. Onnes Memorial Lecture (COHEN), A., 614.

Ophthalmia, relation of diet to production of (Jones), A., 1223. separation of substance from oil which prevents (Estill and

McCollum), A., 1223.

Opianic acid, derivatives of (Rodionov and Fedorova), A., 151. Opianyl ψ -chloride (KIRPAL), A., 360.

Opium, determination of, in stomach contents (Dovey), A., 264. determination of morphine in (Hollman), B., 58.

Opium alkaloids (Spätii and Polgar; Spätii and Epstein), A., 163; (Späth and Burger), A., 473, 474.

separation of (Chemnitius), B., 732. Optical activity and chemical constitution (SINGH and RAI), A.,

and polarity of substituent groups (Rule and Mitchell), A., 132; (Rule), A., 233.

inversion, Walden's (WARD), A., 453; (LEVENE and WALTI), A., 644; (Levene, Mori, and Mikeska), A., 1171.

properties of unsaturated compounds (Реткенко-Кит-schenko), А., 713.

rotatory power and atomic dimensions (Brauns), A., 93. effect of ionisation on (Levene, Bass, Steiger, and Ben-

COWITZ), A., 625. influence of sulphur atoms on (SHUKLA), A., 1196.

sensitiveness with dyes (Burgherr, A., 1041. superposition (Patterson and Fulton), A., 229; (Patterson,

Fulton, and Semple), A., 249.

Optically active compounds, influence of solvents on rotation of (PATTERSON and McALPINE), A., 295.

Oranges, constituents of (WILLIMOTT and WOKES; WILLIMOTT), B., 615.

storage of (Bottini), B., 456.

Orange gum, hydrolysis of, by taka-diastase (Abbott), A., 700. Orcinol, derivatives of (HIRST), A., 1189.

Ores, apparatus for classification of (France), (P.), B., 881.

mill for crushing (GIBSON), (P.), B., 391. crushed, classification of (Dolbear, Eastman, and Selective

TREATMENT Co.), (P.), B., 583. dressing of (Parsons, Godard, and Carnochan), B., 282. heat treatment and concentration of (EDSER, TAPLIN, and METALS PRODUCTION), (P.), B., 224.

concentration of (COTHAY and ROPP TIN, LTD.), (P.), B., 116*;

(STEVENS), (P.), B., 225.

flotation of (ELLEY and DU PONT DE NEMOURS & Co.; LEWIS and Minerals Separation North American Corp.), (P.). B., 168; (Weinig and Palmer), B., 192; (Keller and MINERALS SEPARATION NORTH AMERICAN CORP.; HERMAN, ALLEN, and Newitt), (P.), B., 633; (Simpson and Minerals SEPARATION NORTH AMERICAN CORP.; SAYRE and METALS RECOVERY CO.; HALL, SANDERS, and SOUTHWESTERN ENGINEERING CORP.), (P.), B., 784.

apparatus for (MacIntosh and Gen. Engineering Co.), (P.), B., 115; (EGEBERG and MACINTOSH), (P.), B., 705* use of sulphones as flotation reagents for (LAIST and FRICK), (P.),

B., 633 crude, selective flotation of minerals from (WISER), (P.), B.,

machine for separation of (Reilly), (P.), B., 47.

electromagnetic separation of (DAVIES), (P.), B., 849. kilns for calcination and sintering of (MARTIN), (P.), B., 815. sintering of (TORULF), (P.), B., 225*. roasting of (MACKAY), (P.), B., 913*.

shaft furnaces for (STRECKER), (P.), B., 337. agglomeration of (KIPPE), (P.), B., 195*.

smelting of, in absence of air (ROITZHEIM and REMY), (P.), B.,

metallisation of (Tracy), (P.), B., 527; (Crist), (P.), B., 785.

416 Ores, treatment of (JOHANNSEN and KRUPP GRUSONWERK), (P.), B., 256*; (TERRY and SHERIDAN), (P.), B., 527. to recover metallic values (Fourment), (P.), B., 753; (Dietzsch), (P.), B., 943*. with chloride solutions (Christensen), (P.), B., 726. working up of (KRUPP GRUSONWERK and STEPHANI), (P.), B., 583; (Krupp Grusonwerk), (P.), B., 659. acid extraction of metals from (STEVENS, NORRIS, and WATSON), (P.), B., 560. chlorination of (RAMEN), (P.), B., 942. reduction of (BUDDEUS), (P.), B., 942. fine-grained, smelting of, in the blast-furnace (HOFMANN), B., oxidisable, roasting of (Soc. Metalurgica Cittlena "Cuprum"), (P.), B., 225. oxidised, decomposition of (HAHN and FRANKE), (P.), B., 491. refractory, containing precious metals, furnace for treatment of (Evans and Evans Ore Reduction Co.), (P.), B., 753. sulphide, treatment of (SIMONDS and HYDE), (P.), B., 819. roasting of (Metallbank & Metallurgische Ges.), (P.), B., conversion of, into sulphates (COMPLEX ORES RECOVERIES Co.), (P.), B., 337. control of evolution of sulphur from (KTRSEBOM and U.S. Smelting, Refining, & Mining Co.), (P.), B., 784. sulphur-containing, treatment of, in cell furnaces (GATTO), B., 652. production of sulphur compounds from (Coolbaugh and Read), (P.), B., 877. determination of alkalis in (CIOCHINA), B., 605. determination of sulphur in (JÄRVINEN), B., 910. Organs, arginine content of (FURTH and DEUTSCHBERGER), A., 894. displacement of mineral content of, in light and at high altitudes (PINCUSSEN), A., 482. animal, distribution of mineral matter in (Copisarow), A., 690. glandular, manufacture of protective and curative agents from (Schröder), (P.), B., 925. Organic compounds, structure of, from Röntgenographic analysis (MARK), A., 136. electronic structure of (MÜLLER), A., 501. chemistry of, from Kckulé's theory (STAUDINGER), A., 136. preparation of, by means of catalytic gas reactions (I. G. FARBENIND.), (P.), B., 924.
manufacture of (I. G. FARBENIND.), (P.), B., 868, 956. from carbon monoxide and hydrogen (DREYFUS), (P.), B., 237. containing oxygen (I. G. FARBENIND.), (P.), B., 828. use of magnesium bromohydrosulphide in synthesis of (MIX-GOIA), A., 134. spectrochemistry of (v. Auwers), A., 1123. molecular constitution of, by the absorption of light (Acry and FRENCH), A., 449. examination of, by fluorescence spectrography (Andant), A., anticathodic luminescence of (Marsh), A., 292. electrical polarisation and isomerism in (ERRERA), A., 94. alternate polarity in, and the effects of substituents (VAN DUIN), A., 663. dielectric constants of, variation of, with temperature (Velasco DURANTES), A., 1008. decomposition of, by the electric discharge (Fowler and Mardles), A., 841. vibration frequencies of (HERZ), A., 1006. fusion temperatures and spectrograms of (Timmermans), A., 10. thermal data of (PARKS and HUFFMAN), A., 11. superheating of (SKRAUP and BENG), A., 560; (SKRAUP and Beifuss), A., 659. relation between constitution and stability to heat of (Schön-BERG and SCHÜTZ), A., 667. biothermic action of (MAMELI and FILIPPI), A., 172. solid, volume law for (BILTZ), A., 498. adsorption and constitution of (Schilov and Nekrassov), A., effect of various ions on solubility of, in water (KRUYT and Robinson), A., 311.

motion of, on water and other liquids (ZAHN), A., 16.

and Berger), A., 1181.

effect of hydrogen-ion concentration of hydrolysis of (OLIVIER

and Cortese), A., 1166. activity of halogens in (Tronov; Tronov and Kruger), A., 957. lability of halogens in (GRAHAM, MACBETH, and ORR), A., 575. nitration of (TAYLOR, RICHARDSON, and DU PONT DE NEMOURS & Co.), (P.), B., 892. oxidation of (HATCHER), A., 448; (LEJEUNE), A., 736, 833; (FROMAGEOT), A., 1148; (SILESIA VER. CHEM. FABR.), (P.), catalytic oxidation of (I. G. Farbenind.), (P.), B., 903. reduction of (I. G. Farbenind.), (P.), B., 903; (Werschen-Weissenfelser Braunkohlen A.-G., Fürth, and Hilden-BRAND), (P.), B., 924. action of sulphur on (SZPERL), A., 241. complex, containing phosphorus and gold, manufacture of solutions of (Cassella & Co.), (P.), B., 860*. highly-polymerised (Staudinger, Frey, and Starck), A., 1051. long-chain, properties of (Lee), A., 851. saturated and unsaturated, absorption spectra of (Purvis), A., stereoisomeric, determination of configuration of, and their additive compounds, with stannic chloride (HIEBER and SONNEHALB), A., 1077. determination of, by oxidation with chromic acid (v. Fellen-BERG), A., 1100. determination of, volumetrically (Peterson and West), A., 1100.determination of antimony in (GRAY), A., 143. determination of arsenic and phosphorus in (Poggi and Pol-VERINI), A., 66. determination of bromine in (SMITH), A., 551. determination of carbon in (Lustia), A., 687, 891. determination of halogens and nitrogen in (Lustig), A., 891. determination of halogens and sulphur in (Récsei), A., 35, 368. determination of nitrite formed in replacement of nitro-groups in (Clark and Carter), A., 474. determination of nitrogen in (SMTH and WEST), A., 166. determination of selenium in (SHAW and REID), A., 1101. Organic materials, electrodeposition of (KODAK, LTD., SHEPPARD, and Beal), (P.), B., 850*. determination of mineral matter in (VILA and ANCELLE), A., 488. Organic products, preparation of (Tival), (P.), B., 734*. Organic radicals. Sec under Radicals. Organic substances, destructive decomposition of (Wallin), (P.), B., 134. Organo-metallic compounds, manufacture of (Kraus, Callis, and STANDARD DEVELOPMENT Co.), (P.), B., 173*, 797*. isomorphism of, and their X-ray structure (George), A., 98. cyclic (Drew), A., 164; (Drew and Thomason), A., 267. Orthite from Norway (LLORD Y GAMBOA), A., 851. Orthoclase, structure of (Botwinkin), A., 1165. Orthotaxy (RINNE), B., 582. Oryza sativa (rice), glutelin and globulins of (Jones and Csonka; Jones and Gersdorff), A., 1227. Oryzanin, synthesis of β -acid from (Sahashi), A., 1086. Oscillators, linear, quantum mechanics of (Kennard), A., 915. Oscillograph, cathode-ray, measurements of overvoltage with (NEWBERY), A., 210. Osmium, and its tetroxide (FRITZMANN), A., 742. Osmosis, kinetics of (Northrop), A., 826. with collodion membranes (Jurišić), A., 200. Osmotic pressure, influence of foreign substances on (Schreine-MAKERS), A., 1140. of colloidal solutions, relation of Tyndall effect to (RAMAN), A., 1127.Osones, oxidation of sugars to (CHEM. FABR. SCHERING), (P.), B., 924. Ostrea edulis, chalky deposits on shells of (ORTON, AMIRTHALIN-GAM, and BULL), A., 788. Ovarenic acid (HART and HEYL), A., 477. Ovary (HART and HEYL), A., 477. chemistry of (Tourtelotte and Hart), A., 168. internal secretions of (PARKES and BELLERBY), A., 381. nitrogenous extractives of (HEYL and FULLERTON), A., 371. manufacture of physiologically-active substances from (Soc. CHEM. IND. IN BASLE), (P.), B., 734*.

Ovens, roof for (Müller-Tanneck: Laurent), (P.), B., 321.

for baking, drying, etc. (VICARS, LTD. and CROSLAND), (P.), B.,

for coal distillation (DANIELS), (P.), B., 133.

Organic compounds, reactivity of atoms and groups in (Norms

Ovens, annular, heat-insulated walls for (TROCKNUNGS-, VERSOH-WELUNGS-, & VERGASUNGS-GES., HONIGMANN, and BART-LING), (P.), B., 801.

hearth (Hartman and Hartman Interests), (P.), B., 133. rotary-hearth (Trooknungs-, Versonwelungs-, & Ver-GASUNGS: GES.), (P.), B., 897.

multiple-tier gas, for baking, drying, etc. (VICARS, LTD. and

Crosland), (P.), B., 690.

tunnel (Dressler Tunnel Ovens and Vermorcken), (P.), B., 109.

for ceramics (Marlow), (P.), B., 815. vacuum (Brauns), A., 438.

Overvoltage (Onoda), A., 24, 941.

theory of (Heyrovský), A., 1145.

in alkaline solutions (Herasymenko), A., 1145.

of hydrogen (SAND), A., 735.

of metallio salts, in liquid ammonia and in water (Groening and CADY), A., 210.

anode, measurements of, with the cathode-ray oscillograph (Newbery), A., 210.

Ovomucoid (NEEDHAM), A., 787.

Ovotyrins (S. and T. POSTERNAK), A., 582.

Ovovitellin, phosphorus nucleus of (S. and T. Posternak), A.,

1:3:5-Oxadiazines (SLOTTA and TSOHESCHE), A., 578.

Oxadiazole, derivatives of (Pellizzari), A., 163. Oxadiazoles (P. C. and S. C. Guha), A., 981.

Oxalacetic acid, fermentation of (Hägglund and Ringbom), A.,

Oxalatomanganic acids, and their salts (MEYER and SCHRAMM), A., 33.

Oxalic acid, and its salts, manufacture of (WALLACE and OLD-BURY ELECTRO-CHEMICAL CO.), (P.), B., 10. photochemical decomposition of aqueous solutions of (ALL. MAND and REEVE), A., 29.

anhydrous, photochemical and thermal decomposition of

(WOBBE and Norris), A., 30.

pure, electrolysis of aqueous solutions of (Doumer), A., 427. adsorption of ions of, in colour lake formation (Weiser and PORTER), A., 1021.

oxidation of, by a moss (Houger, Mayer, and Plantefol), A., 905.

action of, on soluble lead salts (Demassieux), A., 959.

metabolism. See under Metabolism. preservation of standard solutions of (ISHIMARU), A., 743. cerium chloride compounds with (DEDE and FABER), A., 855.

determination of, in physiological fluids (Khouri), Á., 689. determination of, in urine (Holmberg), A., 478; (zu Hörste),

A., 896. Oxalic acid, salts, crystal structure of (Wood), A., 190.

detection and determination of, in blood and cerebrospinal fluid (Guillaumin), A., 475.

complex salts of (Scholder, Gadenne, and Niemann), A., 854, 855; (SCHOLDER), A., 855.

calcium salt, equilibrium of precipitation of (Vèzes), A., 626. equilibrium of hydrochloric acid and (Auméras), A., 312.

europium salts (SARKAR), A., 325. molybdenyl salt (WARDLAW and WORMELL), A., 636.

rare-earth salts, solubilities of (SARVER and BRINTON), A.,

sodium stannic salt (ELÖD and KOLBACH), A., 958.

Oxalic acid, ethyl ester, action of, on magnesium pyrryl iodide (Godney and Naryschkin), A., 162.

ethyl hydrogen ester, preparation of (FOURNEAU and SABETAY), A., 542.

p-methylaminophenyl ester (Galatis), A., 762.

trimethylene esters, isomeric (TILITSCHEEV), A., 340.

Oxalic acid, dithiol-, salts of (MINGOIA), A., 134.

Oxalyl chloride, action of, on methylnaphthalenes (Lessen and GAD), A., 247.

Oxazinesulphonio acids (Turski, Bojanowski, Moniuszko, and Vogelgarn), A., 263.

Oxidation, mechanism of (WIELAND and FRANKE), A., 944. quotient of (MÜLLER), A., 996.

in light (Eckert), A., 881.

of organic compounds (LEJEUNE), A., 736, 833; (FROMAGEOT), A., 1148; (SILESIA VER. CHEM. FABR.), (P.), B., 829.

in living cells (OPARIN), A., 479.

tissues after extirpation of suprarenals (ESTRADA and Neuschlosz), A., 381.

Oxidation, biological, mechanism of (v. SZENT-GYÖRGYI), A., 1114. relation of catalase to (STERN), A., 483.

effect of ethyl cyanide and ethyl carbylamine on (Emerson and Buchanan), A., 1110.

catalytic (WITZEMANN), A., 539. by arsenates (Lyon), A., 599.

electrolytic. See Electrolytic oxidation.

irreversible, of organic compounds (CONANT and PRATT), A., 116. low-temperature, with charcoal (RIDEAL and WRIGHT), A., 118. side-chain, by nitro-compounds (SMITH and LYONS), A., 146.

Oxidation reactions (ASKENASY and ELÖD), A., 635.

Oxidation-reduction potentials. See under Potential. Oxides (SIMON and THALER), A., 730; (SIMON), A., 1013. change of volume in formation of (DEL FRESNO), A., 294.

manufacture of (THARALDSEN), (P.), B., 409. fused, electrolysis of (Andrieux), A., 216.

organic, rate of hydrolysis of (Skrabal), A., 942.

See also Metallic oxides.

a-Oxides, action of, on esters of amino-acids (KIPRIANOV), A., 343. reaction of amines with (Krassusky, Stepanov, Kossenko, and Kussner), A., 546.

a-2-Oxidobenzyl ethyl and methyl ethers (BERGMANN and v. LIPPMANN), A., 460.

(-)-trans-Oxidoethylene-aβ-dicarboxylic acid, salts of (Kuiin and Zell), A., 41.

Oxido-a-isostrophanthidinic acid, methyl ester, methyl semiacetal of (Jacobs and Gustus), A., 1195.

Oximes, structure of, and their metallic compounds (TAYLOR and EWBANK), A., 58.

kinetics of formation of (OLANDER), A., 1036.

isomerism of (Brady and Klein; Brady and Bennett), A., 563; (BRADY and GOLDSTEIN), A., 973.

additive compounds of, with thiocarbimides, and their autooxidation (GHEORGHIU), A., 229.

aliphatic, catalytic reduction of, in presence of nickel (VASSIL-JEV), A., 648.

Oxindole-3-acetic acid, bromo-, chloro-, and iodo-derivatives (CHEM. FABR. SOHERING), (P.), B., 286, 378, 380*.

Oxindoleacrylic acid (CHEM. FABR. SCHERING), (P.), B., 286. Oxindole-3-propionic acid, and iodo- (CHEM. FABR. SOHERING), (P.), B., 286.

Oxindolidenehydantoin, diacetyl derivative of (Kotake), A., 1199. Oxindolylhydantoin, and its derivatives (Kotake), A., 1199. Oxyadenine. See 2-Oxypurine, 6-amino.

Oxyberberine, synthesis of (HAWORTH, KOEPFLI, and PERKIN), A.,

Oxycellulose (HESS and KATONA), A., 861.

Oxydase, effect of nutrient solutions on activity of (EZELL and Crist), A., 1225.

Oxydoreductase, action of, on glyceraldehyde, dihydroxyacetone, and methylglyoxal (Lebedev), A., 76, 793. in yeast (LEBEDEV), A., 175.

Oxygen, laboratory apparatus for electrolytic preparation of (WULF), A., 955. apparatus for manufacture of (Soo. Anon. Salvoxyl), (P.), B., Î40.

absorption band spectrum of, in the atmosphere (Dieke and Barcock), A., 1005.

arc spectrum of (McLennan, McLay, and McLeod), A., 999. green line in spectrum of (McLennan, Ruedy, and McLeod), A., 802; (McLennan and McLeod), A., 910.

series spectrum of (Bowen), A., 285; (CROZE and MIHUL), A., 1117.

second order spectrum of (MIHUL), A., 1.

third order spectrum of (MIHUL), A., 177, 389, 490. ultra-violet band spectrum of (Ellsworth and Hoffield), A.,

magnetic susceptibility of (VAIDYANATHAN; V. WIŠNIEWSKI), A., 300.

paramagnetism of (VAN VLECK), A., 493.

scattering power of (BIJVOET, CLAASSEN, and KARSSEN), A.,

ionisation potentials of (MILLIKAN and BOWEN), A., 913. potential gradient for, in the positive column (GÜNTHER-Schulze), A., 709.

activation of (Jorissen and van der Beek), A., 326. active (Bichowsky and Copeland), A., 1156.

overvoltage of (Onoda), A., 941.

dielectric constant of, in a magnetic field (Weatherby and Wolf), A., 1126.

Oxygen, heat of adsorption of, on charcoal (GARNER and MCKIE), A., 1134.

heats of dissociation of (BIRGE), A., 1008.

density and compressibility of (BAXTER and STARKWEATHER), A., 194.

liquid, vapour pressure of (Dodge and Davis), A., 403. liquid-vapour phase equilibria for nitrogen and (Dodge and DUNBAR), A., 417.

solid, crystal structure of (McLennan and Wilhelm), A., 297. diffusion of, through silver (Johnson and Larose), A., 302. adsorption of, by glass walls (CRESPI), A., 406.

explosion of mixtures of, with acetylene, carbon monoxide, hydrogen, and methane (SAUNDERS; SAUNDERS and SATO),

combustion of mixtures of carbon monoxide and (Finch), A., 1146; (Brewer), A., 1147.

combination of carbon monoxide with, in contact with fireclay (Bone and Forshaw), B., 289.

explosion of mixtures of methane and (TOWNEND), A., 1146. catalytic combination of hydrogen and (Remy), A., 28.

photochemical reaction between chlorine, hydrogen, and (CREMER), A., 947.

distribution of, in organs (London and Rabinkova), A., 897. effect of alterations of pressure of, in inspired air, on tension in tissues (CAMPBELL), A., 167.

Oxygen determination:

determination of carbon dioxide and (GMEINER), A., 1228. commercial, analysis of, with the Hempel apparatus (Frederick), B., 601.

Oxyhæmoglobin, activity coefficients of ions in (Cohn and Pren-TISS), A., 475.

preparation and properties of the globin of (HILL and HOLDEN), A., 67.

dissociation curves of, in anomia (RICHARDS and STRAUSS), A.,

Oxymethoxymethyldihydrobrucidine (GULLAND, PERKIN, and Robinson), A., 889.

Oxymethoxymethyldihydrostrychnidines (Clemo, Perkin, and Robinson), A., 888.

Oxyns (EIBNER and MUNZERT), B., 417, 707.

Oxypalmatine (Haworth, Koeffli, and Perkin), A., 472.

Oxyperthiocyanic acid, and its silver salt (Melis), A., 346. Oxyprotoberberine (Charravarti, Haworth, and Perkin), A.,

2-Oxypurine, 6-amino-, in blood, and its hydrochloride (Buell and Perkins), A., 584.

Oysters, shell-deposits in (ORTON and AMIRTHALINGAM), A., 788. Ozokerite, cracking of (Toronescu), B., 98.

Ozone in the atmosphere (Dobson, Harrison, and Lawrence),

A., 439; (CABANNES and DUFAY), A., 1164. in relation to solar radiation (CLAYTON), A., 850.

kinetics of formation of (MUND and D'OLIESLAGER), A., 319. electrical formation of (PINKUS and JULIARD), A., 741. preparation of, by the electric discharge in presence of other gases (Juliard), A., 635.

laboratory apparatus for electrolyte preparation of (WULF), A.,

production of, in air, by ultra-violet light (Dadlez), A., 738. by action of a-particles (MUND and D'OLIESLAGER), A., 834. manufacture of (FILZ), (P.), B., 299.

absorption spectrum of (COLANGE), A., 808.

ultra-violet absorption spectrum of (Chalonge and Lambrey), A., 607.

ultra-violet band spectrum of (J. and M. DUTHEIL), A., 184. thermal decomposition of (WULF and TOLMAN), A., 631, 834. effect of chlorine on (PINKUS and RADBILL), A., 320.

thermal reactivity of, in presence of hydrogen (Belton, Griffith, and McKeown), A., 114.

activated, collisions in (SMYTH), A., 1001.

Ozonisation apparatus for converting air into nitric oxide (NEGLE), (P.), B., 450.

Ozoniser, Siemens, power-voltage characteristic of (Lunt), B., 492.

Padding-baths, preparation of (I. G. FARBENIND.), (P.), B., 407. Pæonol, complex salts of, with cobalt, copper, and nickel (Pfeff-FER, GOLTHER, and ANGERN), A., 362.

Pseonol, compound of, with the stannic chloride derivative of methyl salicylate (Pfeiffer, Oberlin, and Segall), A., 247.

Paints, preparation of (Blumenfeld and Blumann Rare

EARTHS CHEMICAL Co.), (P.), B., 756*. manufacture of (GARDNER), (P.), B., 229.

driers for (WOLFF), B., 340.

mills for grinding (DRYSDALE and SMITH & BLYTH), (P.), B.,

noxious solvents and thinners used in (Beythien), B., 50. improvement of flexibility of (MEZGER and LECHLER), (P.), B.,

effect of properties of whiting on mobility of (Gardner), B., 418.

weathering of (Nelson and Sohmutz), B., 84. use of hydrocellulose in (Gardner) B., 418.

addition of materials to prevent separation and settling of pigments in (Schlick), (P.), B., 947.

application of, to cement and plaster (GARDNER), B., 451. for compass bowls and discs (SMITH), B., 821.

for steel protection (FRIEND), B., 608. for wood (CARVER), (P.), B., 787.

compositions used as (SARGINT and CROWE), (P.), B., 816. anti-fouling, toxic compounds for (GARDNER), B., 418. bituminous (Colas Products and Levy), (P.), B., 755. flat white wall, of the lithopone type (Hickson), B., 451.

luminous, manufacture of (Cotton), (P.), B., 119. stabilisation of (BAMBERGER), (P.), B., 197.

oil, settling of (BLOM), B., 531.

paste, plasticity and flow of (Vollmann), B., 496.

penetration tests on (HIOKSON), B., 683. protective (TURNER), (P.), B., 609.

structural, agreement between accelerated and exposure tests of (GREGORY), B., 946.

water-glass (Kropfhammer), (P.), B., 197.

white (DEVAUCELLE), (P.), B., 197. staining of (Morgan and Calbeck), B., 84.

yellowing of drying-oil films of (Morrell and Marks), B., 787. tests of, on wood treated with creosote and zinc chloride (GARDNER), B., 585.

accelerated tests for (SCHULZ), B., 563.

laboratory testing of (Kraeff), B., 417. statistic method of testing durability of (CALBEOK), B., 83.

testing of, as protective coatings for wood (Browne), B., 821. Paint fillers, preparation of (GAUDRY and HOOLAHAN), (P.), B., 50. Paint films, determination of elasticity and strength of (Wolff and ZEIDLER), B., 563.

Paint industry, problems in (DE WAELE), B., 227.

Paint materials, fibrous (HEYL), (P.), B., 708.

Paint media, preparation of oils for (CHEM. FABR. WIERNIK & Co.), (P.), B., 196.

Paint removers (PHILLIPS and Goss), B., 228.

acetone-bonzene, volatility of (WEISS), B., 418. containing wax (ENELL and CHADELOID CHEMICAL Co.), (P.), B., 915.

Paint vehicles, effect of ultra-violet light on (STUTZ), B., 84, 755. Palladium, absorption spectrum of vapour of (McLennan, Cohen, and Liggert), A., 396.

K-series spectrum of (Kellström), A., 286.

photo-electric properties of (Bennewitz), A., 913. melting point of, by the wire method (Mendenhall and Utterback), A., 926.

influence of gas content on velocity distribution of (Kluge), A. 287.

adsorption of hydrogen by, on carriers (Sabalitschka), A., 821. catalytic, stability of (VALLERY), A., 945.

Palladium alloys with copper, crystal structure and conductivity

of (Johansson and Linde), A., 400. with gold and nickel (Fraenkel and Stern), A., 1030.

Palladium chloride, isomerism of complex compounds of (KRAUSS and Brodkorb), A., 951.

double salt of cocaine and (PACE), A., 265.

oxide, crystal structure of (Zachariasen), A., 1014. Palladium determination :-

determination of (Ivanov), A., 1162.

determination of, in platinum (ZVJAGINSTSEV), A., 1162. Palladium minerals from Potgietersrust platinum fields (ADAM), A., 851.

Palm, Nipah, juice from (DENNETT), B., 263.

Palm oil, chemistry of (RAYNER; BRASH), B., 371. analysis of mixtures of coconut oil and (Elsdon and Smith), B., 227.

```
Palmarosa oil (IMPERIAL INSTITUTE), B., 618.
Palmatine, synthesis of (HAWORTH, KOEPFLI, and PERKIN), A.,
    472.
 formation of cryptopalmatine from (HAWORTH, KOEPFLI, and PERKIN), A., 1096.
Palmitic acid, ethylamide of, and aa-dichloro-, and its derivatives
  (v. Braun, Jostes, and Münch), A., 548.
Palmitic acid, a-thiol- (NICOLET and BATE), A., 977.
Palmitodimargarins (Thomson), A., 540.
Palmitoleic acid (HILDITCH and VIDYARTHI), A., 540.
Palmitylsalicylic acid (KAUFMANN), B., 155.
Pancreas, inorganic constituents of (MARX), A., 371.
 hormone of, and its influence on fate of infused dextrose (KURO-
    KAWA), A., 78.
Pancreatin, commercial, hydrolysis of maize starch by (WALTON
 and DITTMAR), A., 75.
Papain (KRAUT and BAUER), A., 377.
 influence of reaction on proteolytic power of (Ringer and
    GRUTTERINK), A., 378.
Papaveraldoline, and its salts and benzoyl derivative (OBERLIN),
  A., 681.
Papaverine, synthesis of (Rosenmund, Nothnagel, and Riesen-
    FELDT), A., 367; (SPÄTH and BURGER), A., 474. and its analogues (MANNICH and WALTHER), A., 579.
  detection of, microchemically (WAGENAAR), A., 1208.
ψ-Papaverine, identity of papaverine and, and their chloro-
platinates (SPÄTH and POLGAR), A., 163.
Papaveroline, bromo-, picrate (OBERLIN), A., 681.
Paper, nature of formation of (Porrvik), B., 838.
 manufacture of (Gannon, Mahle, Wells, and Ohio Box-
Board Co.; Ellis & Ellis-Foster Co.), (P.), B., 71;
      (ALLEN), (P.), B., 296; (SMITH and HAMERSLEY MANUF.
      Co.), (P.), B., 873.
   by the chlorine process (Consiglio), B., 276. from straw (Wood and Grasselli Chemical Co.), (P.), B.,
      746.
    from straw, esparto, and reed (RINMAN), (P.), B., 873.
    machines for (India Rubber, Gutta Percha, & Telegraph
        WORKS Co., and WALKLEY), (P.), B., 329.
      in continuous sheet (MILLSPAUGH), (P.), B., 935.
  or paper board, vulcanised products for (KAYE), (P.), B., 565. defibration of (WINESTOCK), (P.), B., 104.
  sizing of (DE CEW and PROCESS ENGINEERS), (P.), B., 296.
    measurement of degree of (Schwalbe), B., 328; (Carson),
      B., 471.
  mechanism of resin sizing of (ARNOT), B., 934.
  mechanism of loading of (ATSUKI and NAKAMURA), B., 962.
  impregnation of, with rubber (NUNN), (P.), B., 52.
  finishing of (Chatham and Celanese Corp. of America), (P.),
    B., 872.
  coated laid, manufacture of (Collins Manuf. Co.), (P.), B.,
  currency, production of (SHAW and BICKING), B., 247.
  decorated, manufacture of (Lefebure), (P.), B., 296.
  insulating. See under Insulating.
  lignocell (v. Possanner), B., 839.
  parchment, fat- and water-soluble printings on (WREDE), (P.),
    B., 438.
  photographic. See Photographic paper.
  transparent and waterproof, manufacture of (MAZE and ELLIS-
    FOSTER Co.), (P.), B., 71.
  waste, printed, recovery of pulp from (McGregor), (P.), B., 963.
  waterproof, manufacture of (KIRSCHBRAUN), (P.), B., 407.
  apparatus for determining and controlling the moisture content
    of (Clark), (P.), B., 768.
  determination of cellulose and pulp in (HALSE), B., 8.
  determination of mechanical wood in (Korn), B., 649.
Paper industry, use of cellulose in (RAIMONDO), B., 871.
  value of p_{\rm H} determination in (ESCOURROU and CARPENTIER),
   . B., 699.
Paper mills, pulping machines for (WOLFF & SÖHNE and MALLICKII), (P.), B., 935.
Paper products (ELLIS and ELLIS-FOSTER Co.), (P.), B., 71.
  manufacture of (McIntosh and Diamond State Fibre Co.),
    (P.), B., 675.
Paper pulp, preparation of (Fish), (P.), B., 474, 552*; (Beveridge), (P.), B., 675; (Summers), (P.), B., 905*; (Howell),
      (P.), B., 935.
    machine for (KEENAN, KENNEDY, KIRSCH, and ALASKA PULP
```

& PAPER Co.), (P.), B., 362.

```
machines for grinding (SÖRBOM), (P.), B., 520.
  agglomeration of (Sveen), (P.), B., 329*.
  bleaching of (Kress and Amer. Lakes Paper Co.), (P.), B.,
  improvement of colour of (RAWLING), (P.), B., 599.
  conversion of corn stalks into (Sweeney), (P.), B., 963.
  separation of fibres of (Robinson and Robinson Fibre Corp.,
    (P.), B., 873.
  halfstuffs, production of, from peat (RUNKEL), (P.), B., 9.
   high-grade, production of (I. G. FARBENIND.), (P.), B.,
     164.
  stock, treatment of (ROBINSON FIBER CORPORATION), (P.), B.,
     248.
   old, utilisation of (Plumstead and Jessup & Moore Paper
     Co.), (P.), B., 474.
Paprika. See Capsicum annuum.
Paprika dyes (Zechmeister and v. Cholnoky), A., 772.
Paprika oil, iodine value of (MITCHELL), B., 49.
Paracetaldehyde, condensation of, with aniline, in presence of
  aluminium oxide (Tschitschibabin and Oparina), A., 1086.
Paracetaldehyde, bromo-derivatives (STEPANOV, PREOBRASCHEN-
   SKI, and Schtschurina), A., 42.
  thio, and its derivatives (MÜLLER and SCHILLER), A., 672.
Parachor and chemical constitution (SUGDEN and WILKINS), A.,
   244; (Sugden and Freiman), A., 714.
  and molecular refraction (Herz), A., 189.
Paraconic acids, substituted, rates of hydrolysis of (SIRCAR), A.,
Paraffin, effect of a-particles on (RICHARDS), A., 289.
 liquid, in colloidal and physiological chemistry (Bonn), A., 70.
 manufacture of aqueous emulsions of, for medicines (GLÜCKS-
   MANN), (P.), B., 892.
  effect of, on bacteria in soils (Fleming), B., 535.
Paraffins, influence of dissolved salts on miscibility temperatures
   of mixtures of ethyl or methyl alcohol with (Howard and
    Patterson), A., 15.
  ignition of mixtures of air and (WALLS and WHEELER), B., 243.
Paraffin wax (Buchler and Graves), B., 625
 extraction of, from brown coal (MAILHE), (P.), B., 548.
  purification of distillates of (BURMAH OIL Co. and Worsley),
   (P.), B., 35.
  separation of, from oils (BATAAFSCHE PETROLEUM MAAT-
   SCHAPPIJ and SCHÖNFELD), (P.), B., 836.
  variability of diffraction spacings in (CLARK), A., 715. heat of solution of (SULLIVAN, MOGILL, and FRENCH), B.,
   960.
  apparatus for determining the softening point of (Herbst), B., 244.
  crystallisation of (Rhodes, Mason, and Sutton), B., 739.
  solubility of, in mineral oil (SULLIVAN, McGill, and French),
   B., 960.
  heating of, with aluminium chloride (WATERMAN and PERQUIN),
    B., 643.
  specific gravity of (Morris and Adrins), B., 355.
  determination of, in crude wax (HENDERSON and FERRIS), B.,
  determination of oil in (Diggs and Buchler), B., 625.
  determination of paraffin scale in (Belani), B., 272.
Paraformaldehyde, manufacture of concentrated solutions of
   (I. G. FARBENIND.), (P.), B., 428.
  condensation of, with pyruvic acid (FEOFILARTOV), A., 132,
   751.
Paramagnetism, theory of (CABRERA), A., 926.
  rôle of circular electrons in (Bose), A., 805.
  and thermodynamics (GIAUQUE), A., 926.
  and degenerated gases (PAULI), A., 288.
  independent of temperature (COLLET), A., 11.
  of elements between calcium and zinc (CARRELLI), A., 288.
Paramacium caudatum, effect of neutral-red on (WILSON), A.,
  1220.
Parathyroids, effect of extracts of, on calcium and phosphorus
    excretion (Greenwald and Gross), A., 175.
  action of hormone of, on absorption and excretion of calcium
     (STEWART and PERCIVAL), A., 486.
    on heart and blood calcium (MATTHEWS and AUSTIN), A.,
```

on gastric secretion (Austin and Matthews), A., 1115. rôle of, in differentiation of bone (Hammett), A., 594.

Paper pulp from waste kauri wood (IMPERIAL INSTITUTE), B., 247.

treatment of (ELLIS and ELLIS-FOSTER Co.), (P.), B., 71.

Parathyroid extracts, offect of, on calves (Robinson, Huffman, and Burr), A., 796.

Parchment, transparent, production of, from animal hides (ZNIDARIC), (P.), B., 825.

Parsley-seed oil, composition of (HILDITOR and JONES), A., 540; (van Loon), A., 853.

Particles, measurement of size of (LUKIRSKY and KOSMAN; CALBECK and HARNER), B., 127; (LOVELAND and TRIVELLI), B., 688, 893.

law of projection of (Soós), A., 625.

centrifugal, separation of, suspended in a fluid (TIRAGE & VENTILATION MÉCANIQUES), (P.), B., 64.

small, microscopical measurement of (GERHARDT), A., 934. conversion of materials into (AKT.-GES. CHEM. PROD. SCHEIDE-MANDEL, SAKOM, and ASKENASY), (P.), B., 218.

a-Particles, distribution of range of (v. Laue and Meitner), A.,

electrical counting of (GREINACHER), A., 915.

scattering of (OPPENHEIMER), A., 710.

by helium (RUTHERFORD and CHADWICK), A., 1003.

retardation of, by matter (ROSENBLUM), A., 1120. atomic disintegration by (Kirson and Pettersson), A., 493. ozonisation by (Mund and D'Olieslager), A., 319, 834.

effect of, on paraffin (RICHARDS), A., 289. tracks of, through silver bromide in gelatin (Myssovski and Tschishov), А., 915.

β-Particles, absorption of, by matter (FOURNIER), A., 915. H-Particles, emission of, and their loss of charge (STETTER), A., 494. tracks of (HOLOUBER), A., 494.

electrical counting of (GREINACHER), A., 915.

method of making, audible (ORTNER and STETTER), A., 183. Partition coefficients, influence of salts on (Herz and Stanner), A., 1020.

and solubility (Pershke), A., 304. ionic (BJERRUM and LARSSON), A., 828.

Passivity (EGGERT), A., 423.

application of, in electrolysis (Dony-Hénault), A., 427. of metals (GRUBE), A., 1034.

Pastes, apparatus for concentration or solidification of (WARBURTON), (P.), B., 832.

detergent, production of (BRANDEGGER), (P.), B., 728. Pasteurisation (Munday), (P.), B., 503.

of liquids containing gases (A.S. DE FORENEDE BRYGGERIER), (P.), B., 801.

of putrescible liquids (STASSANO), (P.), B., 318.

Pastilles, compressed, omission of radiation by (REBOUL, Déchène, and Jacquesson), A., 604.

Pasture, nutritive value of (WOODMAN, BLUNT, and STEWART), B.,

in relation to dry matter content of (Sheehy), B., 791. Pavia rubra, constituents of bark of (Zellner), A., 387. Paving bricks, manufacture of (COTTON), (P.), B., 790.

Paving compositions, asphalt (Forrest and Barber Asphalt Co.), (P.), B., 790.

Peas, regenerated preserved (FROIDEVAUX), B., 91. See also Pisum sativum.

Pea-canning effluents, treatment of, with lime (WARRICK), B., 510. Peaches, pectin constituents of (APPLEMAN and CONRAD), A., 704. Pears, non-volatile acids of (NELSON), A., 798.

fresh and canned, vitamin-C content of (CRAVEN and KRAMER), B., 638

Peat, definition of the term (STADNIKOV and PROSKURNINA), B.,

from Chatham Islands (IMPERIAL INSTITUTE), B., 835. mode of occurrence of dopplerite in (FRANCIS and TIDESWELL),

B., 929. distillation of (Reilly and Sullivan), B., 769.

apparatus for (Domnick and Deutsche Verkohlungs- & DESTILLATIONSGES.), (P.), B., 67.

separation of solid and liquid constituents of (Allgem. Kom-MERZOES, and MANNESMANN), (P.), B., 466.

removal of water from (SÖDERLUND, BOBERG, TESTRUP, and TECHNO-CHEMICAL L'ABORATORIES), (SCHROTER), (P.), B., 577. В., 358*; (P.),

colloidal properties of (DUMANSKI), A., 908; B., 289.

treatment of (Allgem. Kommerzges, and Mannesmann), (P.), B., 466.

proofing of, against moisture and fire (WILKENING), (P.), B., 133. fermentation of (MELIN, NORRBIN, and ODÉN), B., 271. halfstuffs and cellulose from (Runkel), (P.), B., 9.

Peat, production of fuel from (L. and W. L. Brown), (P.), B.,

production of combustible or plastic material from (JIROTKA), (P.), B., 867.

wet, treatment of, with porous materials (v. Niessen), (P.), B., 515.

differentiation of lignite and (Springer and Abele), B., 401. Peat moss, production of combustible or plastic material from (JIROTKA), (P.), B., 867.

Pectins (MEHLITZ), B., 345.

preparations of (DOUGLAS PECTIN CORP. and LOESOH), (P.), B., 890.

constitution and determination of, in grape wines and musts (Semichon and Flanzy), B., 792. viscosity of sols of (OHN), B., 91.

in fruit (Carré and Horne; Appleman and Conrad), A., 704. gelatinisation of (LÜERS and LOCHMÜLLER), B., 568.

acetyl groups in (Nelson), A., 80.

Pectin products, manufacture of (Nanji and Paton), (P.), B., 504, 616*.

Pectin substances, fermentation of, in mixed cultures (OMELIANSKI and Kononova), B., 711.

Pelargonium oil (IMPERIAL INSTITUTE), B., 617.

Pelt, hydrolysis of, in acid media (Grasser and Taguchi), B., 885. Peltier effect (HALL), A., 391.

Pens, alloys for (Yonezu), (P.), B., 169.

fountain, platinum alloys for nibs of (Heraeus Ges. and Haagn), (P.), B., 633.

Pen points, alloy for (Ledig and Amer. Platinum Works), (P.), B., 913.

Penicillium, production of fat by a species of, grown in sucrose solution (Barber), B., 660.

Pennisetum purpurcum. See Grass, Napier.

Penta-acetyl-d-gluconamide (ZEMPLÉN and KISS), A., 230.

Penta-acetylglucose, optical rotation of (Levene and Bencowitz), A., 858.

Penta-acetylmannoses, optical rotation of (Levene and Bencowitz), A., 649, 858. a- and β-Pentabenzoyl-h-glucoses (Schlubaon and Hunten-

BURG), A., 858. Pentadecane, ag-dibromo- (Chuit, Boelsing, Hausser, and

Malet), A., 446. Pentadecane-a/-dicarboxylic acid, and its dimethyl ester (CHUIT,

Boelsino, and Malet), A., 446. Pentadecane-ag-diol, and its diacctate (Chuit, Boelsing,

HAUSSER, and MALET), A., 446. n- and iso-Pentadecenoic acids, and their esters (Chuit, Boelsing,

HAUSSER, and MALET), A., 446. Pentadecenols (Chuit, Boelsing, Hausser, and Malet), A., 446.

Pentadecenyl bromide (CHUIT, BOELSING, HAUSSER, and MALET), A., 446.

 $\Delta^{\alpha\beta}$ -Pentadiene (Bours), A., 1051.

Pentaerythritol tetrancetate, velocity of hydrolysis of (SKRABAL and ZLATEVA), A., 27.

Pentaethylguanidine, and its picrate (Lecher, Graf, Gnädinger, Bolz, and Chudoba), A., 863.

5:7:3':4':5'-Pentamethoxy-2-phenylbenzopyrylium chloride, 3-hydroxy- (Karrer), A., 1197.

5:7:3':4':5'-Pentamethoxyphenylcoumarin, 5:7-dihydroxy- (Bar-GELLINI and GRIPPA), A., 465.

Pentamethoxytriphenylcarbinols (LUND), A., 661. Pentamethyldiethylmercaptogalactose (Levene and Meyer), A., 1174.

Pentamethyldiethylmercaptomannose (Levene and Meyer), A., 1174.

Pentamethylenetetrazole, elimination of, by kidnoys (LEPPERT), A., 792.

1:5-Pentamethylene-1:2:3:4-tetrazole (Knoll & Co. and Schmidt), B., 173.

Pentamethyl-d-galactose, and its dimethylacetal (Levene and MEYER), A., 1174.

Pentamethyl-d-mannose, and its dimethylacetal (Levene and MEYER), A., 1174.

1:2:2:6:6-Pentamethylpiperidine, 4-amino-, and lits dipicrate (Orthner), A., 975.

1:2:2:6:6-Pentamethyl-4-piperidone. See N-Methyltriacotonamine. Pentamethylpiperidyldithiocarbamio acids (ORTHNER), A., 975. n-Pentane, crystal structure of (MoLennan and Plummer), A., 816. Pentane, detonation of mixtures of, with other gases (EGERTON

and GATES), A., 318, 1146.

Pentane, y-bromo-, and y-chloro- (GRIGNARD and ONO), A., 130. $\alpha\beta\gamma$ -tri- and $\alpha\beta\beta\gamma$ -tetra-bromo- (Bouis), A., 1051. chloronitro-, and chloronitroso- (RHEINBOLDT and DEWALD),

A., 852.

trans-cycloPentane-1-carboxy-2-acetic acid, and its imide (SIRCAR), A., 756.

cycloPentanespiro-2:3-dicyanocyclopropane-2-carboxylamide (Sir-CAR), A., 756.

cycloPentanediacetimide (SIRCAR), A., 451.

1-Pentane-αδ-diol, and its diphenylcarbamate (Levene, Haller, and Walti), A., 643.

cycloPentanespiroparaconic acid, and its silver salt (SIRCAR), A., 756.

cycloPentanespirosuccinimide (SIRCAR), A., 756.

Pentan-δ-ols, and their a-naphthylcarbamates, and their configurational relationship to butan-y-ols (Levene, Haller, and Walti), A., 643.

cycloPentanone, reduction of (Zelinski, Titz, and Fatejev), A.,

cyanohydrin, condensation of substituted anilines with (OAKE-SHOTT and PLANT), A., 355.

cycloPentanone, trithio-, and its trisulphone (Fromm), A., 1189. Pentaphenyl orthophosphate (Ansonütz and Brocker), A., 146. Pentatriacontane, oo-chloronitro-, and oo-chloronitroso- (Ruein-BOLDT and DEWALD), A., 852

Δβ-Pentene, decomposition of (Norris and Reuter), A., 1165.

 $\Delta\beta$ -Pentene, β -bromo- (Bours), A., 748.

Pentenes, a-mono- and $\beta \gamma$ -di-bromo- (Bours), A., 1051.

∆¹-cycloPentenecarboxylic acid, ethyl ester (Sircar), A., 756. Δγ-Pentene-aaε-tricarboxylic acid, methyl ester, triamide of (FARMER and HEALY), A., 647.

 $\Delta\beta$ -Penten- α -ol (Bouis), A., 1051.

Pentenonitriles (Castille and Gueurden), A., 961. Δ1-cycloPentenylacetanilide (Kon and Narayanan), A., 878. Δ²-cycloPentenylallylmalonic acid (Perkins and Cruz), A., 359 Δ^2 -cycloPentenyl-n-butylmalonic acid (Perkins and Cruz), A., 359.

a-Δ2-cycloPentenylbutyric acid (Perkins and Cruz), A., 359. △2-cycloPentenylethylmalonic acid (Perkins and Cruz), A., 359. α - Δ^2 -cycloPentenylhexoic acid (Perkins and Cruz), A., 359. Δ^2 -cycloPentenylpropylmalonic acids (Perkins and Cruz), A., 359.

 $a-\Delta^2$ -cycloPentenylvaleric acids (Perkins and Cruz), A., 359. Penthian series (BENNETT and SCORAH), A., 228.

Penthian-4-one, and its salts and derivatives (Bennett and Scorah), A., 228.

Penthian-4-one-3-carboxylic acid, barium salt and ethyl ester (Bennett and Scorah), A., 228.

△3-Penthien-4-ol-3-carboxylic acid, ethyl ester, and its derivatives (BENNETT and SCORAH), A., 228.

Penteic acid, bromine derivatives (MERCHANT, WICKERT, and Marvel), A., 853.

Pentosans, formula of (Schorsch), A., 1056.

determination of, microchemically (Youngburg), A., 908. Pentose derivatives, isolation of, from tissues (Winter), A., 691. micro-determination of, in yeast-nucleic acid (HOFFMAN), A., 687.

Pentoses, determination of, microchemically (Youngburg), A., 908.

cycloPentylethane- $\alpha\beta\beta$ -tricarboxylic acid, l-hydroxy-, γ -lactone (SIRCAR), A., 756.

cycloPentylideneacetanilide (Kon and Narayanan), A., 878. 4-cycloPentylmethylresorcinol (Talbot and Adams), A., 968. cycloPentyl phenyl ketone, 2:4 dihydroxy- (Talbor and Adams), A., 968,

Pepper, alkaloid from, and its salts (PICTET and PIOTET), A., 1208. Peppermint oil, menthol content of (MENDELSOHN), B., 796.

Japanese (Shi osaki, Nagasawa, and Makino), B., 571. Pepsin, purification and properties of (Forbes), A., 378. isoelectric precipitation of (Fencer and Andrew), A., 793. adsorption of (KIKAWA), A., 174.

destruction of, in relation to its ionisation (Goulding, Borsook, and Wasteneys), A., 278.

action of (Steudel and Ellinghaus), A., 698.

synthetic action of (ODA), A., 174.

effect of halogen salts on digestion by (CLIFFORD), A., 698. determination of, in gastric juice (CITRON), A., 372.

Peptidases (v. Euler and Josephson), A., 794. activity and inhibition of (v. EULER and JOSEPHSON), A., 175. specific action of (Waldschmidt-Leitz, Grassmann, and Schäffner), A., 345.

elutriation of systems yielding (Fodor and Schoenfeld), A., 76.

Peptides (Bergmann, Miekeley, and Kann; Bergmann and Delis), A., 1202. action of Grignard reagents on (Bettzieche, Menger, and

Wolf), A., 45.

decarboxylated, and their derivatives (v. Braun and Münch), A., 344.

determination of free carboxyl groups in (Bettzieche), A., 137. Peptide alcohols, synthesis and hydrolysis of (BETTZIECHE and MENGER), A., 241.

Peptisation, theory of (v. Buzken), A., 310. Peptone (BERNARDI and TARTARINI), A., 582.

hydrolysis of, by alkalis (Yaitsonnikov), A., 944.

silk, structure of (ABDERHALDEN and SCHNITZLER), A., 686.

Pertones, commercial composition of (Blanchetiere), A., 474. hydrolysis of (Abderhalden and Mahn), A., 1099. cystine content of (YAOI), A., 380.

peptic digestion of (BAERNSTEIN), A., 992.

Peracetic acid, action of, on acetyl derivatives of aromatic amines (BIGIAVI), A., 658. on unsaturated compounds (Böeseken), A., 39.

basic lead salt (Brückner), B., 139.

Perbenzoic acid, action of, on unsaturated compounds (BÖESEKEN), A., 39.

oxidation of oleic acid by (Pigulevski and Petrova), A., 447. Perferric acid. See under Iron.

Perfumes, extraction of, from flowers (FORAY; J. G. FARBENIND.), (P.), B., 398.

fixing agent for (RIEDEL A.-G.), (P.), B., 893.

crystallised, production of (JAKOVA-MERTURI), (P.), B., 460. synthetic (MINER and QUAKER OATS Co.), (P.), B., 317. analysis of (TREFF), B., 59.

occurrence, detection, and determination of ethyl chloride in (SUDENDORF and PENNDORF), B., 378.

Perhydridases, plant, preparation and properties of (MICHLIN), A.,

Perhydroatophan. See 2-cycloHexyldecahydroquinoline-4-carb. oxylic acid.

Perhydrohæmin (Kuhn, Braun, Seyffert, and Furter), A., 784. Perilla oil, polymerisation of (Toon), B., 49; (Toon and Line), B., 82.

and its glyceride, action of heat and blowing on (Long, Egge, and Weiterau), B., 754.

Periodic system, limits of (MEYER), A., 710. and atomie structure (SMITH), A., 1010.

Periodicity, law of (Petrenko-Kritschenko), A., 713.

Periplaneta orientalis (cockroach), metabolism of (SLATER), A., 270.

respiratory metabolism of (DAVIS and SLATER), A., 66. "Permalloy," atomic grouping in (MCKEEHAN), A., 1128. crystal structure of (FORSTER), A., 190.

Permanganates. See under Manganese.

Permeability of membranes (MICHAELIS and PERLZWEIG), A., 514; (MICHAELIS, ELLSWORTH, and WEECH; MICHAELIS, WEECH, and Yamatori), A., 727.

relation between structure of membranes and (BJERRUM and Manegold), A., 1022.

selective, of membranes (Choucroun), A., 931.

Permutites, base-exchange in (WIEGNER and JENNY), B., 718. ionic exchange at surfaces of (JENNY), A., 415.

exchange acidity of, on treatment with salts (KAPPEN and Rung), B., 364.

Pernitroso-compounds, action of potassium cyanide on (PASSERINI), A., 670; (Passerini and Bruscoli), A., 1196.

Peronospora, material for control of (Horst), (P.), B., 233. Peroxides, photochemical formation of, in oxygen transport by

chlorophyll (Gaffron), A., 1225.

formation of, in oxidation of magnesium organic compounds (WUYTS), A., 451. iodometric analysis of (WAGNER), B., 249.

Peroxidised compositions, stable, manufacture of (VAN DER LANDE and Novadel Process Corp.), (P.), B., 677.

Peroxydase (Ucko and Bansi), A., 377. action of (Bansi and Ucko), A., 1111.

Perriera madagascariensis, toxic principle of seeds of (VOLMAR and Samdahl), A., 387.
Pervanadie acid. See under Vanadium.

Perylene, and its derivatives (ZINKE, FUNKE, and LORBER), A., 350; (PONGRATZ; LINKE, GORBACH, and SCHIMKA), A., 1190.

manufacture of (MARSCHALK), (P.), B., 773*.

Perylene, dicyano- (Bensa and Pongratz), (P.), B., 29. 3:9-dicyano- (Pongratz), A., 1190.

dihydroxy-, manufacture of (ZINKE, KLINGLER, and BENSA), (P.), B., 627*.

and its halogen compounds, dinitro-derivatives of (Bensa and STIEGER), (P.), B., 579.

Perylenes, chloro-, and their derivatives (COMP. NAT. MAT. COL. ET MANUF. PROD. CHIM. DU NORD RÉUNIS), (P.), B., 470.

Perylene dyes (Kalle & Co., Schmidt, and Voss), (P.), B., 212; (PENECKE and BENSA), (P.), B., 246. manufacture of (ZINKE), (P.), B., 325.

vat, preparation of, and intermediates from diacylperylenes (COMP. NAT. MAT. COL. ET MANUF. PROD. CHIM. DU NORD RÉUNIS; BENSA), (P.), B., 698.

Perylene-3:9-dicarboxylic acid, and its diethyl ester (Pongratz), A., 1190.

Perylenedisulphonic acid (KALLE & Co., SCHMIDT, and Voss), (P.), B., 212.

Perylenedisulphonic acids, and their sodium salts (MARSCHALK), A., 350.

Perylenenitrile, chloro- (Bensa and Pongratz), (P.), B., 29. Perylenequinone, dinitro-, manufacture of (ZINKA and BENSA),

(P.), B., 903*.

Perylenequinones, preparation of (COMP. NAT. MAT. COL. ET MANUF. PROD. CHIM. DU NORD REUNIS, and PEREIRA), (P.),

Perylenetetracarboxylic acid, di-imide and its derivatives, manufacture of halogenation products of (KALLE & Co., SCHMIDT, and NEUGEBAUER), (P.), B., 901.

Pests, animal, destruction of (BECK and DEUTSCHE GOLD- &

SILBER-SCHEIDEANSTALT VORM. RÖSSLER), (P.), B., 622.

animal and plant, compositions for destruction of (HOFFMANN-LA ROCHE & Co.; FARBENFABR. VORM. BAYER & Co.), (P.), B., 536.

method of increasing adhesiveness in dusts for control of (I. G. FARBENIND.), (P.), B., 233. plant, combating of (I. G. FARBENIND.), (P.), B., 233; (CHEM.

FABR. VORM. SCHERING), (P.), B., 663.

Petrel, Australasian. Sec Aestralata lessoni. Fulmar. Seo Fulmarus glacialis.

Petrol, production of (TINKER), (P.), B., 549*.

purification of (Cox and McDermott), (P.), B., 436.

effect of organic compounds on igniting and "knocking" characteristics of (EOERTON and GATES), B., 738. oxidation of, by air (FREUND), B., 384.

end-point, production of, from cracking plants (NEUBRONNER), B., 594.

See also Gasoline.

Petroleum, origin of (Potonié), B., 577; (Ormandy, Craven, HEILBRON, and CHANNON), B., 692.

cholesterol as parent of (Zelinski), B., 865.

composition of (CARPENTER), B., 673. extraction of, from oil-sands (PRELLER), (P.), B., 210.

synthesis of (FISCHER), B., 244.

effects of corona discharge on (Jakowsky), B., 547. treatment of (Cross), (P.), B., 357.

apparatus for (Lewis and Atlantic Refining Co.), (P.), B., 181. refining of (F. A. and J. A. MILIFF), (P.), B., 291; (KEYES), B., 323; (Lummus), (P.), B., 626.

apparatus for (JEFFERSON and GRISCOM-RUSSELL Co.), (P.), B., 100*.

by improved Edeleanu process (Allgem. Ges. Chem. Ind.), (P.), B., 210.

polymerisation in sulphuric acid refining of cracked distillates of (Morrell), B., 594.

decolorisation and classification of, by aluminium silicate CHRISTOPHER and STANDARD OIL CO. OF CALIFORNIA), (P.),

desulphurisation and fractionation of (Benton and Canadian AMERICAN FINANCE & TRADING Co.), (P.), B., 163.

cracking of (Lewis and Atlantic Refining Co.), (P.), B., 741; (W. C. and F. E. Wells), (P.), B., 770.

catalytic cracking of (Mazzetti), B., 5.

distillation of (Mason and Standard Oil Co. of California), (P.), B., 210.

corrosion in distillation plant for (FREUND), B., 642.

apparatus for fractional distillation of, under reduced pressure (Morrell and Ecloss), B., 930.

distillates, sweetening of, with lead sulphide (MORRELL and Faragher), B., 803.

Petroleum distillates, cracked, recovery of resinous substances from (Morrell and Universal Oil Products Co.), (P.), B., 134.

determination of aromatic hydrocarbons in, volumetrically (Dănăila and Stoenescu), B., 98.

vaporisation of (Leslie and Good), B., 401.

extraction of amorphous wax from laboratory specimens of (Bowrey), B., 693.

separation of components of (Gordon and Marshall), B., 642. derivatives containing sulphur, action of gaseous hydrogen iodide on (Nellensteyn), B., 244.

production of hydrocarbons resembling (PARIS-DURCY), (P.), B., 273.

production of liquid resembling (BAURIER), (P.), B., 274. light, and residues, utilisation of (ASCHAN), B., 161.

Rumanian, analysis of (GANE and METTA), B., 466.

and its products, determination of oxygen value of (NAMETKIN and Abakumovsky), B., 179.

Petroleum emulsions. See under Emulsions.

Petroleum hydrocarbons. See under Hydrocarbons.

Petroleum oils, treatment of (SNELLING and GASOLINE PRODUCTS Co.), (P.), B., 578.

refining of (MoMichael and Hydrocarbon Refining Process Co., Inc.; Schmidt and International Precipitation Co.), (P.), B., 35.

decolorisation, clarification, and purification of (KAUFFMAN, CLARK, and KAUFFMAN), (P.), B., 741.

impure, treatment of (BRADY and BRADY PROCESS Co.), (P.), B., 626.

removal of sulphur compounds from (Odom and M. O. R. PRODUCTS Co.), (P.), B., 35.

removal of volatile constituents from (MILLER and SINCLAIR REFINING Co.), (P.), B., 931.

distillation of (FARAGHER, GRUSE, GARNER, and GULF REFINING Co.), (P.), B., 67; (HOWARD and STANDARD DEVELOPMENT Co.), (P.), B., 180; (Rogers, Wilson, and Standard Oil Co.), (P.), B., 210.

apparatus for vacuum distillation of (GAVIN and FOSTER), B., 930.

cracking of (PRICHARD, HENDERSON, and GULF REFINING Co.), (P.), B., 162; (EGLOFF, BENNER, and UNIVERSAL OIL PRODUCTS Co.; HALLE and UNIVERSAL OIL PROCESSES Co.), (P.), B., 291; (VARGA and ERDLÉY), B., 435; (POLLOCK and Universal Oil Products Co.), (P.), B., 627; (Petroleum Chemical Corp. and Stevenson), (P.), B., 645.

specific and sensible heats of (WILSON), B., 594. prevention of evaporation of (WILSON and STANDARD OIL Co.),

(P.), B., 931.

dehydration of (BALLARD), (P.), B., 7. preparation of adsorbent for (RIAL and GARD), (P.), B., 771. hydrogenation of (McAfee and Gulf Refining Co.), (P.), B.,

addition of p-aminophenol to inhibit oxidation of (Somerville and VANDERBILT Co.), (P.), B., 771.

unsaturated hydrocarbons in (GANE and ZILISTEANU-GHEORGHIU), B., 594.

of Grozny (Sachanov), B., 271.

for spraying, determination of unsulphonated residue in (GRAHAM), B., 290.

heavy, conversion of, into light oils (NORTHRUP and PETROLEUM HYDROGENATION Co. of AMERICA), (P.), B., 807.

carbon ratio of (STUART), B., 739. formolite analysis of (Nastukov), B., 209.

Petroleum products, purification of (DICKEY, WHEELER, and GEN. Petroleum Corp. of California), (P.), B., 806.

treatment of (Black, Rial, Howes, and Pan American Petroleum Co.), (P.), B., 596*.

Petroleum residues, treatment of (Morrell and Universal Oil PRODUCTS Co.), (P.), B., 517.

Petroleum stills. See under Stills.

Petroleum wax (Buchler and Graves), B., 625.

Petroleum wells, use of a sludge-laden liquid in (NATIONAL PIG-MENTS & CHEMICAL Co.), (P.), B., 245.

Petroseidic acid, derivatives of (STEGER and VAN LOON), A.,

Petroselic acid, derivatives of (STEGER and VAN LOON), A., 1168. Peucedanum decursivum, glucoside from roots of (ARIMA), A.,

Pharmaceutical mixtures, binary, cutectic points of (ANGELETTI), A., 830.

Pharmaceutical preparations, qualitative analysis of (ROJAHN and STRUFFMANN), B., 617.

products (HAHL and WINTHROP CHEMICAL Co.), (P.), B., 317. manufacture of (Pope), (P.), B., 29; (Farbenfabr. vorm. Bayer & Co.), (P.), B., 379. containing arsenic (Chem. Fabr. Schering), (P.), B., 203*,

Pharmacological effect in relation to hydrogen-ion concentration (Jarisch), A., 20. Phaseolus vulgaris, allantoic acid in (Fosse), A., 284; (Fosse and

HIEULLE), A., 1175.

Phebalium dentatum, essential oil of (Penfold), B., 458.

Phenacethomopiperonylamide, derivatives of (KITASATO), A.,

Phenacetin, derivatives of (Bogert and Taylor), A., 763.

Phenacite, structure of (BRAGG), A., 97.

Phenacyl bromide, action of, on 2-aminopyridine (Tsourrschi-BABIN), A., 468.

chloride, o-nitro-. See Acetophenone, ω-chloro-o-nitro-. 4-Phenacyl-2-methyl-1:4-benzopyran (Heilbron and Hill), A.,

Phenacyl methyl ketone, p-bromo- (v. Auwers and Heimke), A.,

1203.

cis- and trans-Phenacylphenyldithiocarbazinic acids, derivatives of (Bose), A., 63.

N-Phenacylpiperidine. See ω-Piperidinoacetophenone.

Phenanthraphenazine, 2:4:5:7-tetrabromo- (SCHMIDT and BÜR-KERT), A., 771.

Phenanthraquinone, 2:7-dibromo-, semicarbazone, and 2:4:5:7tetrabromo- (SCHMIDT and BÜRKERT), A., 771.

Phenanthrene, synthesis of (Kenner and Wilson), A., 655. pyrogenic dissociation of, in presence of hydrogen, under pressure (ORLOV), A., 1060.

compound of, with trinitro-m-eresol (EFREMOV and TICHO-

MIROVA), A., 1182.

Phenanthrene, 9-chloro-2:7-dibromo-, and its benzoyl derivative, and 9:9-dichloro-2:7-dibromo- (SCHMIDT and BÜRKERT), A., 772.

Phenanthrene series (SCHMIDT and BÜRKERT), A., 771.

Phenanthrene-10-azobenzene, 2:7-dibromo-9-hydroxy- (SCHMIDT and BÜRKERT), A., 771.

Phenanthridine, 9-chloro-7-nitro- (Moore and Huntress), A.,

Phenanthridone, 7-nitro-, preparation of, from 2-nitrofluorenoneoxime (Moore and Huntress), A., 1201.

Phenanthridones, asymmetrical (Moore and Huntress), A., 665, 1201.

Phenanthridones, nitro- (Moore and Huntress), A., 665.

Phenanthro-3-amino-1:2:4-triazines, mono- and di-bromo-, and mono- and di-nitro-, and their acetyl derivatives (DE), A.,

Phenantriazine, 6:11-dibromo-3-amino-, and its salts and derivatives, and 6:11-dibromo-3-hydroxy- (SCHMIDT and BÜRKERT), A., 771.

Phenarsazinie acid, nitro-, and its sodium salt (Gibson and Johnson), A., 1211.

Phenazines, synthesis of (Kehrmann and Mermod), A., 260. p-Phenetidine, 3-nitro-, preparation of (Reverdin), A., 353. Phenetole, van der Waals' constants for (Weissenberger and

HENKE), A., 112.

Phenetole, 4-chloro-2-iodo- (INCOLD, SMITH, and VASS), A., 762. 3-mitro-2:4-diamino-, and its acetyl derivatives (Bogert and TAYLOR), A., 763.

Phenetoles, nitro-4-amino-, and nitro-4-nitroamino-, benzoyl

derivatives (FAWCETT and ROBINSON), A., 1181.

Phenetoledisulphonic acid, thio-, and its chloride (Pollak, Deutscher, and Krauss), A., 866.

Phenetolesulphonic acid, thio-(POLLAK, DEUTSCHER, and KRAUSS), A., 866.

Phenetole-p-sulphonyl fluoride, and 2-nitro- (Steinkoff), A., 966. p-Phenetylethylcarbamide, and a-nitro-β-2:3:5-trinitro-, and its derivatives (Lorang), A., 1182.

p-Phenetyl β-3-methoxy-4-ethoxyphenylethyl ketone (Tasaki), A., 1078.

2-p-Phenetylpyridine, and its picrate (Forsyth and Pyman), A.,

Phenol, manufacture of (Rhodes, Jayne, and Brvins), B., 597. dissociation constant of (STENSTROM and GOLDSMITH), A., 204. specific heat, heat of formation and vapour pressure of aqueous solutions of (FERGUSON), A., 628.

Phenol, density of mixtures of water and benzene with (WOODMAN), A., 196.

influence of salts on solubility of water in (CERNATESCU and Papafil), A., 416.

activity of, in aqueous salt solutions (Endo), A., 729.

equilibrium of p-toluidine with (Pushin), A., 22. equilibrium of water and (JONES), A., 1030.

effect of diet on oxidation of (PALLADIN and FERDMANN), A.,

480. condensation of, with secondary alcohols (Huston, Lewis, and GROTEMUT), A., 659.

condensation of, with chloral (Chattaway and Morris), A., 967. action of methyl alcohol on (IPATIEV, ORLOV, and PETROV), A.,

non-resinous products from formaldehyde and (Riebeck'sche Montanwerke), (P.), B., 392.

oxidation of, with hydrogen peroxide in presence of iron salts (Goldhammer), A., 1181.

reaction of n-propyl alcohol with (IPATIEV, ORLOV, and PETROV), A., 538.

action of, on proteins (Cooper and Sanders), A., 203. complex ions of silver nitrate and (Endo), A., 827.

pharmaceutical incompatibility of (MIGLIACCI and GARGIULO), B., 923.

mixtures of camphor and, as medicaments (MÜLLER, GÜNTHER, and Peiser), A., 900; (GÜNTHER and Peiser), A., 1109. analysis of (DEL MUNDO), B., 901.

detection of (GIBBS), A., 688, 870; (WARE), B., 596.

determination of, in ammonia liquor (WILLIAMS), B., 358; (BACH and UTHE), B., 401.

determination of, in commercial cresols (WARE), B., 596. determination of, in lysol (Järvinen), B., 596.

determination of, in tar oils (KATTWINKEL), B., 292.

Phenol, p-amino-, electrolytic preparation of (CAESAR), B., 849. 3:5:6-tribromo-, benzoate of, tribromodiiodo-, 3:4:5-tribromo-2:6-dinitro-, and 2:4-dichloro-3:5:6-tribromo- (Kohn and KARLIN), A., 1182.

di-, tri-, and tetra-bromo-, tribromo-chloro- and -nitro-, dibromonitro-, mono- and di-chlorotribromo-, trichlorobromo-, chlorobromoiodo-, mono- and tri-chlorobromonitro-, chlorodiiodo-, dichlorotriiodo-, and tetrachloronitro-, and their derivatives (Kohn and Sussman; Kohn and Pfeifer), A., 966; (Kohn and Rabinovitsch), A., 967.

m-chloro-, Reimer-Tiemann reaction with (Hodgson and Jenkinson), A., 877.

dichloroamino-, dichloronitro-, and its acetate, and 3:5-dichloro-4-nitroso- (Hodgson and Wignall), A., 1064.

4-chloro-2-amino-5-hydroxythio-, and 2:5-dichloro-mono- and di-nitro-, and their salts (FRIES and BUCHLER), A., 782. iodonitro-, 3-iodo-2:6-dinitro-, 3-iodo-2:4:6-trinitro-, and their

salts and derivatives (Hoddson and Moore), A., 456. o-nitro-, iodination of (Hodgson), A., 660.

nitration of, with mixed nitrosulphuric and fuming nitric acids (Rinkes), A., 144.

2:4-dinitro-, molecular organic compounds of (Buchler and HEAP), A., 141. sodium salt (Tröger and Eicker), A., 768.

3-nitro-2-amino- (Fourneau and Trefouel), A., 555; (King), A., 684.

3-nitro-5-amino-, and its acetyl derivative (FOURNEAU, TRÉ-FOUEL, and BENOIT), A., 580.

2-nitro-4:6-diamino-, 4-sulphonyl derivative (Soc. Chem. Ind.

IN BASLE), (P.), B., 469. 4-nitro-2-aminothio-, and its derivatives (FRIES, VORBRODT, and SIEBERT), A., 779.

Phenols, production of, from waste liquors (Zeche M. Stinnes),

(P.), B., 7.

recovery of, from ammonia liquors (CRAWFORD), B., 179; (ZECHE M. STINNES and ULRICH), (P.), B., 359.

tautomerism of (Fuchs and Pirak), A., 53; (Fuchs and Niszel), A., 257, 1184. electrochemical oxidation of (FICHTER and RINDERSPACHER),

A., 353. apparent oxidation potentials of (Conant and Pratt), A., 116.

nitrosation of (Hodgson and Wignall), A., 1064. condensation products from aldehydes and (Shono), A., 456;

(CHEM. FABR. ALBERT, AMANN, and FONROBERT), (P.), B., 119; (DE JARNY), (P.), B., 852*; (MELAMID), (P.), B., 947*. hardening of condensation products of aldehydes and (Hick and Hick), (P.), B., 684.

Phenols, moulding of condensation products of aldehydes and (PRODUCTS PROTECTION CORP.), (P.), B., 851. condensation products of, with aldehydes and ketones (AMANN,

FONROBERT, and CHEM. FABR. ALBERT), (P.), B., 148.

water-soluble condensation products of, with aldehydes, ketones, or ethers (I. G. FARBENIND. and FARBW. VORM. MEISTER, Lucius, & Brüning), (P.), B., 563.

action of aminoacetals on (HINSBERG and MEYER), A., 1071. additive compounds of, with ammonia (Briner and Agathon), A., 1181.

action of chlorosulphonic acid on (POLLAK and GEBAUER-Fülnegg), A., 354.

formation of coumaranones and chromanones from (v. Auwers, BAUM, and LORENZ), A., 670.

liquid coating compositions from condensation products of formaldehyde and (BAKELITE CORP.), (P.), B., 851.

isomerisation of hydrocarbons by (Kondakov), B., 505. transformation of, into hydrocarbons (KLING and FLORENTIN),

A., 452, 1177. and their ethers, action of hydrogen chloride and nitriles on

(Housen and Blaese), A., 143. condensation of, with nitriles (Hoesch), A., 353; (Houden),

A., 870. and their ethers (Housen and Fischer), A., 1078.

and their ethers, condensation products of o-phthaldehydic acids

with (BRUBAKER and ADAMS), A., 1071. condensation of, with quinones (Pummerer and Huppmann),

A., 770. action of trichloroacetic acid on (VAN ALPHEN), A., 460.

migration of triphenylmethyl group in (VAN ALPHEN), A., 660.

and their derivatives, preparation of cadmium salts of (CHEM. FABR. HEYDEN and GEBAUER), (P.), B., 286.

manufacture of sulphur derivatives of, as mordants (FABR. VAN CHEM. PRODUCTEN and KRAUSS), (P.), B., 469.

manufacture of sulphatoalkyl ethers of (I. G. FARBENIND.), (P.), B., 324.

constitution and germicidal activity of (TILLEY and SCHAFFER), A., 485.

improvement of odour of, for disinfectants (Zeche M. Stinnes), (P.), B., 350.

colour reactions of (EKKERT), A., 984.

detection of (GIBBS), A., 475.

hydrogenated, determination of, in presence of organic solvents, especially hydronaphthalenes (LINDNER and ZICKERMANN), B., 713.

Phenols, amino-, oxidation of (CONANT and PRATT), A., 116. bromo- (Kohn and Dömötör), A., 51; (Kohn and Zandman), A., 52; (Kohn and Sussmann; Kohn and Pfeifer), A., 966; (Kohn and Rabinovitsch), A., 967; (Kohn and Karlin),

halogeno-, and halogeno-nitro-, and their derivatives (Kohn and Dömötör), A., 51; (Kohn and Zandman), A., 52.

mono- and di-nitro-, determination of dissociation constants of (GILBERT, LAXTON, and PRIDEAUX), A., 1139. polynitro-, replacement of hydroxyl by chlorine in (Borsche

and Feske), A., 239.

thio- (Brand and Kranz), A., 555.

Phenol-red, protein error in hydrogen-ion determinations with (Lepper and Martin), A., 534.

Phenol-4-diazonium sulphonic acid, 2:6-dibromo-, and 2:6-dichloro-, sodium salts (HALL and GIBBS), A., 1181.

Phenol-2:4-disulphanilide (Steinkopf), A., 965. Phenol-2:4-disulphonamide (STEINKOPF), A., 965.

Phenol-2:4-disulphonyl fluoride, and o-amino-, and o-nitro- (STEINкорг), А., 965.

Phenolhomophthalein, and its derivatives (KAUFMANN and HAAS), A., 1083.

Phenolic compounds, manufacture of (HALE, BRITTON, and Dow CHEMICAL Co.), (P.), B., 135.

moulded, manufacture of (BAKELITE CORP.), (P.), B., 756. Phenol-iminazophthalein (TEWARI and DUTT), A., 977.

Phenolindophenol, 2:6-dibromo-, permeability of Valonia for (Brooks), A., 1109.

Phenol-itaconein (DHAR and DUTT), A., 969.

Phenolnaphthalein, derivatives of (KAUFMANN and HAAS), A., 1083.

Phenolphthaleins, methyl derivatives of (Morr), A., 1067. Phe nol-p-sulphondimethylamide (STEINKOPF), A., 965. Phe nol-p-sulphonmethylamide (STEINKOPF), A., 965.

Phenol-4-sulphonyl fluoride, o-amino-, hydrochloride (Steinкорг), А., 964.

Phenolsulphonyl fluorides, and o-amino-, 2:6-diiodo-, and o-nitro-, and their derivatives (STEINKOPF), A., 965.

Phenol-2:4:6-trisuccinamidio acid, and its silver salt (Covello and Gabrieli), A., 1181.

Phenoxarsine, 10-chloro-, action of Grignard reagents on (AESCH-LIMANN), A., 368.

Phenoxide, o-nitro-, 4-fluorosulphonyl derivative, silver salt (STEINKOPF), A., 966.

Phenoxides, nitro-, ammonium, and their ammoniates (Briner and Agathon), A., 1181.

cobaltammine compounds of (DUFF and BILLS), A., 1064. Phenoxtellurine, and nitro-, dinitro-, nitrohydroxy-, and dinitrohydroxy-, salts of (Drew), A., 164.

Phenoxtellurine, amino-, diamino-, and their hydrochlorides, and nitro-, and dinitro- (DREW and THOMASON), A., 267.

Phenoxtellurone (DREW), A., 164.

Phenoxyacetic acid, dissociation coefficients of derivatives of (Behagnel), A., 149.

4-Phenoxyacetophenone, $\omega\omega\omega$ -trichloro- (Houben and Fischer), A., 1079.

4-Phenoxybenzoic acid, 3:5-diiodo-4:4'-hydroxy-, and 3:5-diiodo-4-3':5'-diiodo-4'-hydroxy- (Harington and Barger), A., 358.

2-p-Phenoxyphenylindole (Korczyński, Brydovna, and Kier-ZEK), A., 256.

4-Phenoxyphenylpropionic acid, aminoiodohydroxy-derivatives (Harington and Barger), A., 359.

3-Phenoxy-2-phenylquinoline (BERLINGOZZI and TURCO), A., 1087. 3-Phenoxy-2-phenylquinoline-4-carboxylic acid, and its barium salt (Berlingozzi and Turco), A., 1087.

a-(γ'-Phenoxypropylamino)-δ-aminobutane hydrobromide (Dub-LEY, ROSENHEIM, and STARLING), A., 343.

3-Phenoxytoluene, 2:4:6-trichloro- (Bureš), A., 763.

Phenyl groups, and diphenylyl groups, comparison of migration of (DELAVILLE), A., 461.

Phenyl chloromercaptan, 2:4-dinitro- (FRIES and BUCHLER), A.,

γ-chloropropyl sulphide (Bennett and Berry), A., 871. γ-chloropropyl and γ-hydroxypropyl sulphides, nitro- (Bennett

and Berry), A., 871. diphenylmethyl and a- and \beta-naphthylmethyl ethers (Schori-

GIN), A., 54. geranyl ether (Kawai), A., 1183.

 β -halogenoethyl and β -hydroxyethyl sulphides and sulphoxides, nitro- (Bennert and Berry), A., 871.

mercaptan, o-bromo- (VAN HOVE), A., 555.

methyl sulphide, o-bromo- (VAN HOVE), A., 555.

β-piperidinoethyl sulphides, nitro- (Bennett and Benny), A.,

a-Phenyl- β -3-acenaphthylethane, $\beta\beta$ -dichloro-(Ruggli and JENNY), A., 461.

a-Phenylacenaphthylethylenes, β -chloro- β -nitro-(Ruggli and Jenny), A., 461.

Phenyl-3-acenaphthylglyoxal, and its derivatives (Ruggli and JENNY), A., 461.

Phenylacetaldehyde, o-hydroxy-, derivatives of (Rinkes), A., 45. Phenylacetaldehydedi-n-propylacetal (SIGMUND and MAROHART), A., 1054.

N-Phenylacetamidine, and its salts (Brunner, Matzler, and Mössmer), A., 867.

N-Phenylacetamidine, p-nitro-, and its pierate (Brunner and HASLWANTER), A., 867.

2-Phenylacetamido-3-methoxybenzaldehyde, and its phenylhydrazone (Tröger and Sabewa), A., 1090.

2-Phenyl-6-p-acetamidophenylquinoline-4-carboxylic acid (Ber-LINGOZZI and Turco), A., 674.

Phenylacetdipropylamide (KINDLER), A., 759.

Phenylacetic acid, velocity of esterification of, in glycerol (Kailan and GOITEIN), A., 1187.

ethyl ester, action of alkali metals on, and its potassium derivative (Scheibler and Mahboub), A., 357.

Phenylacetic acid, a-amino-, fission of, by Oidium lactis (CHIKANO and KITANO), A., 596.

a-bromo-, and a-thiol-, and their sodium salts (Levene, Mori, and Mikeska), A., 1171.

dithio-, and its ethyl ester (SAKURADA), A., 134.

Phenylacetiminophenyl other hydrochloride (Housen and Blaese), A., 143.

Phenylacetonitrile, 2:4-dinitro- (FAIRBOURNE and FAWSON), A., 244. N-Phenyl-N'-o-acetophenylearbamide (Meisenheimer, Senn, and ZIMMERMANN), A., 1077.

Phenylaeetopiperidide (KINDLER), A., 759.

3-Phenyl-5-p-acetoxybenzylidenehydantoin (BERGMANN and Delis), A., 1203.

3-Phenyl-5-acetoxymethylhydantoin (BERGMANN and Delis), A.,

Phenyl a-acetoxyisopropyl ketone, and its derivatives (Blaise and HERZOG), A., 645.

Phenylacetylazotriphenylmethane (WIELAND. HINTERMAIER, DENNSTEDT, and LORENZO), A., 237.

Phenylacetylene, action of, on ethyl potassiophenylacetate (Scheibler and Mahboub), A., 357.

determination of (HEIN and MEYER), A., 1100.

Phenylacetylene, o-nitro-, action of nitrosobenzene on (Alessan-DRI), A., 572.

Phenylacetylhydrazotriphenylmethane (Wieland, Hintermater, Dennstedt, and Lorenzo), A., 237.

1-Phenylacetylisatin (AESCHLIMANN), A., 256.

5-Phenylacridine-3:4:6:7-bisdiazosulphide (FRIES, VORBRODT, and Siebert), A., 779.

Phenylalanine derivatives (WASER and FAUSER), A., 555

dl-Phenylalanine, 2:4-dihydroxy-, synthesis of (HIRAI), A., 56,1188. Phenylalanineanilide, and its salts (Wessely and John), A., 655. Phenylalaninemethylanilide, and its picrate and naphthalone- β -sulphonyl derivative (Wessely and John), A., 655.

Phenylalanine series (WASER), A., 1109.

Phenylalanylarginines, and their salts and o-hydroxybenzylidene derivatives (Bergmann and Köster), A., 755. Phenylalanylornithine (Bergmann and Köster), A., 755.

Phenylalanylserine, and its anhydrides, and dehydroanhydrides, and their derivatives (BERGMANN, MIEKELEY, and KANN), A., 1202.

β-Phenyl-β-alkylethyl alcohols, dehydration of (RAMART and Амасат), А., 241.

1-Phenyl-2-allyl-4-diethyl-3:5-diketopyrazolidine (Kaufmann), B.,

Phenylamine black, dyeing and printing with (ARIS), (P.), B., 965*. Phenyl β -m-aminophenylethyl ketone (Adams, Cohen, and Rees), A., 552.

2-Phenylaminoterephthalic acid, 5-bromo (Lésniaski and Czerski), A., 577.

l-a-Phenyl-n-amyl chloride (Levene and Μικεsκλ), A., 54.

ε-Phenyl-n-amylaminoacetic acid, derivatives of (v. Braun and BAYER), A., 673.

9-Phenyl-10-isoamylanthracene (BARNETT, COOK, and WILT-SHIRE), A., S81.

Phenylisoamylearbamyl chloride, and its decomposition with ethyl alcohol (PRICE), A., 142.

e-Phenylamyleneamylamine hydrochloride (Skita and Wulff), A., 766.

ε-Phenylamylethylamine, and its hydrochloride (Skita and Wulff), A., 766.

s-Phenyl-n-amylthiocarbamide (Hunter), A., 263.

s-Phenylamylthiocarbamides, p-bromo- (HUNTER and SOYKA), A.,

Phenyl-a-anilino-a-semicarbazidoethyl ketone, p-hydroxy-, semicarbazone (v. Auwers and Lorenz), A., 60.

Phenyl-o-anisylmethylamine, and its salts (Billon), A., 879. 2-Phenylanthrarufin-6-sulphonic acid, 4:8-diamino-p-hydroxy-, and its pyridine salt (I. G. FARBENIND.), (P.), B., 743.

Phenylarsenious oxide, 5-chloro-3-amino-4-hydroxy-, 3-acetyl derivative (I. G. FARBENIND.), (P.), B., 460.

Phenylarsenoacetic acid, 4-amino-, and its acetyl derivative, hydrochlorides of (PALMER and EDEE), A., 580.

henylarsinic acid, o-amino-, derivatives of (Burton and Gibson), A., 1098.

3:4-diamino-, action of chloroacetamide on, and 3-nitro-, 4-glycineamide (Ewins, Newbery, and Stickings), A., 577. aminohydroxy-, acetyl derivative, quinine and quinidine salts

(BILLON and ETABL. POULENC FRÈRES), (P.), B., 861*. 3-amino-4-hydroxy-, 3-acetyl derivative, preparation of stable solutions of (Établ. Poulenc Frères), (P.), B., 573.

diamino-2-hydroxy-, 5-nitro-4-amino-2-hydroxy-, and 3:5-dinitro-2-hydroxy-, and their salts and derivatives (KING), A., 864.

m-nitro-p-hydroxy-, manufacture of (Ostromisslenski and OSTRO PRODUCTS CORP.), (P.), B., 93. electrolytic reduction of (MATSUMIYA and NAKATA), A., 785.

Phenylarsinic acids, treatment of trypanosomiasis with (Four-NEAU, TRÉFOUEL, and DE LESTRANGE-TRÉVISE), A., 73.

toxicity of, for Balantidium coli (Corbet and Jameson), A., 900. Phenylarsinic acids, aminohydroxy-, isomeric, and their acetyl derivatives, and nitrohydroxy- (FOURNEAU, TRÉFOUEL, and Benoit), A., 580.

5-Phenylazobenzene, 2-hydroxy- (Bell and Kenyon), A., 145. 2-Phenyl-1:3-benzdithiole, derivatives of (HURTLEY and SMILES).

p-Phenylbenzhydrazide (Wieland, Hintermaier, Dennstedt,

and Lorenzo), A., 237. 1-Phenylbenziminazole, 5-hydroxy-, and its derivatives (FRIES, Modrow, Raeke, and Weber), A., 780.

2-Phenylbenziminazole, 4:6-dichloro-5-hydroxy- (Fries, Dieck-MANN, FINGERLING, and FINE), A., 781.

2'-Phenylbenziminazolo-2:3-pyridine, and 4'-bromo- (FRIES and ABDURRACHMAN), A., 781.

N-Phenylbenzimino-o-acetylphenyl ether (Chapman), A., 874.

N-Phenylbenziminoanisyl ethers (Chapman), A., 874. Phenylbenziminochlorophenyl others (CHAPMAN), A., 874. N-Phenylbenziminonaphthyl others (Chapman), A., 874.

N-Phenylbenzimino-p-nitrophenyl ether (CHAPMAN), A., 874.

N-Phenylbenziminophenyl ethers, and their derivatives and monodi-, and tri-chloro-, and o-nitro- (CHAPMAN), A., 874.

1-Phenylbenzobenzpyrazolones. See Phenylnaphthpyrazolones. 2-Phenyl-7:8-benzochroman-5:6-quinone (Fieser), A., 155.

4-Phenyl-5:6-benzocoumarin, and 3-bromo- (DISCHENDORFER and Danziger), A., 968.

3-Phenyl-4:5-benzohept-1:2:6-oxadiazine (Meisenheimer, Senn, and ZIMMERMANN), A., 1076.

p-Phenylbenzoie acid, ethyl ester (WIELAND, HINTERMAIER, Dennstedt, and Lorenzo), A., 237.

2-Phenylbenzopyrylium chloride, 2':3':4'-trihydroxy- (Ellison), A., 880.

2-Phenyl-p-benzoquinone, 2^{\prime} : 4^{\prime} -dihydroxy- (Pummeren and Hurr-MANN), A., 770.

Phenylbenzoselena zoles, 2-amino-, 2-hydroxy-, and 2-nitro-(BOGERT and STULL), A., 983.

2-Phenylbenzoselenazole-4'-arsinic acid, and its sodium salt (Bogert and Stull), A., 983. 6-Phenyl-4:5-benzo-1:2:3-triazine 1-oxide (Meisenheimer, Senn,

and ZIMMERMANN), A., 1076. p-Phenylbenzoyl chloride (Wieland, Hintermaier, Dennstedt,

and Lorenzo), A., 237. p-Phenylbenzoylazotriphenylmethane (WIELAND, HINTERMAIER,

DENNSTEDT, and LORENZO), A., 237. p-Phenylbenzoylhydrazotriphenylmethane (WIELAND, HINTER-

MAIER, DENNSTEDT, and LORENZO), A., 237.

-Phenylbenzoyltriphenylmethane (Wieland, p-Phenylbenzoyltriphenylmethane HINTERMALER,

DENNSTEDT, and LORENZO), A., 237.

1-Phenyl-β-benzoylvinylhydrazines, and their derivatives (v. Auwers and Mauss), A., 361.

3-Phenylbenz-4':5'-isothiazole, and 5-amino-, mono- and dibromo, mono- and di-chloro-, 5-hydroxy-, nitro-, and 4-nitro-5-amino-, and their salts and derivatives (FRIES, EISHOLD, and VAHLBERG), A., 783.

1-Phenylbenzthiazoles, bromo-, bromohydroxy-, bromonitro-, chloro-, chloroamino-, chlorobromo-, chlorohydroxy-, chloronitro-, hydroxy-, and nitrohydroxy-, and their salts and derivatives (FRIES and BUCHLER), A., 781.

2-Phenyl-1:3-benztriazole, 2:4-dinitro- and 2:4:6-trinitro- (Beretta and Benati), A., 578.

2-Phenylbenztriazoles, 4:5-diamino-, 4-5:7-trichloro-6-hydroxy-pnitro-, 4-nitro-, and 4-nitro-5-amino-, and their salts and derivatives (Fries, Sudhoff, and Brettschneider), A., 778.

2-Phenylbenztriazole-4:5-quinone-7-sulphonic acid, potassium salt (Fieser and Ames), A., 1198. 2-Phenylbenztriazoles-7-sulphonic 4-amino-5-hydroxy-,

acid. sodium salt (FIESER and AMES), A., 1198.

Phenylbenztriazone, p-bromo- and 2:4-dibromo- (Chattaway and Walker), A., 353.

cycloaziPhenylbenztriazone, p-bromo-, 2:4-dibromo-, ehloro-, and 2:4:6-trichloro- (CHATTAWAY and WALKER), A.,

9-Phenyl-10-benzylanthracene, and 1:5-dichloro- (BARNETT, COOK, and WILTSHIRE), A., 881.

α-Phenyl-β-benzylbutan-β-ol, γ-amino-, glycyl and hippury derivatives (Веттzієоне and Мемоєв), A., 241.

Phenylbenzylcarbamyl azide (STOLLÉ, NIELAND, and MERKLE), A., 1204.

β-Phenyl-γ-benzyl-α-cyanobutyrie acid, derivatives of (Rupe and HECKENDORN), A., 61.

9-Phenyl-10-benzyldihydroanthranol, and 1:5-dichloro- (BARNETT, COOK, and WILTSHIRE), A., 881.

α- and β-4-Phenyl-1-benzyl-1-ethylpiperidinium salts (MILLS,

Parkin, and Ward), A., 1199. 2-Phenyl-4-benzylglyoxalid-5-one-1-acetic acid (GRÄNACHER and

Mahler), A., 467. 2-Phenyl-4-benzylideneglyoxal-5-one-1-acetic acid, and its sodium salt and ethyl ester (GRÄNACHER and MAHLER), A., 467.

Phenylbenzylidenephthalan (Weiss and Fastmann), A., 466. 5-Phenyl-1-benzyl-3-methylpyrazoline (v. Auwers and Heimke),

A., 1203. 3-Phenyl-2-benzyl-a-naphthindole (Korczyński, Brydovna, and Kierzek), A., 256.

a-Phenyl- β -benzylpentane- $\alpha\beta$ -diols (TIFFENEAU and Lévy), A., 1185.

a-Phenyl-β-p-benzylphenylethane (Fuson), A., 46.

2-Phenyl-5-benzylpiperidine (Benary), A., 573.

a-Phenyl-β-benzylisopropyl alcohol, γ-bromoamino-, acetyl derivative (Bettzieche and Menger), A., 241.

1-Phenyl-4-benzylpyrazolone, and p-nitro- (RUPE and HECKEN-DORN), A., 61.

1-Phenyl-2-benzyl-3:4-trimethylene-5-pyrazolone (Mannich), (P.), B., 869.

5-Phenyl-3:4:6:7-bis-(phenyltriazolo)acridines (FRIES, SUDHOFF, and Brettschneider), A., 778.

5-Phenyl-3:4:6:7-bis(phenyltriazolo)xanthen (Fries, Sudhoff, and

Brettschneider), A., 778. 1-Phenyl-2-β-bromoallyl-3:4-trimethylene-5-pyrazolone, bromo- (Mannich), (P.), B., 869.

Phenylbromomalonic acid, dimethyl ester (Carothers), A., 148. Phenylbutane, $a\beta$ -dibromo- δ -p-bromo- (QUELET), A., 452.

a-Phenylbutane- $\beta\gamma$ -dione β -phenylhydrazones (Manske, Perkin, and Robinson), A., 265.

a-Phenylbutanesnlphonic acid, sodium salt (Evans, Marbott, and Turner), A., 645.

 β -Phenyl-n-butyl alcohol (Ramart and Amagat), A., 241.

Phenylisobutyl alcohol, y-p-hydroxy- (Mannich and Merz), A.,

a-Phenylbutyl bromide (Evans, Mabbott, and Turner), A., 645. d-a-Phenyl-n-butyl bromide and chloride (Levene and Mikeska),

β-Phenyl-n-butylamine, and its hydrochloride (RAMART and Амасат), А., 241.

γ-Phenylisobutylamine, phenolic bases from, and γ-p-hydroxy-, and its derivatives (Mannich and Merz), A., 555.

δ-Phenyl-n-butylaminoacetic acid, derivatives of (v. Braun and BAYER), A., 673.

9-Phenyl-10-n-butylanthracene (BARNETT, COOK, and WILTSHIRE), A., 881.

Phenylbutylcarbamyl chlorides, and their decomposition by ethyl alcohol (Price), A., 142.

d-Phenylbutylcarbinol (Levene and Mikeska), A., 53. Phenylbutylene oxide, δ -p-bromo- (Quelet), A., 452.

s-Phenyl-n-butylthiocarbamide (HUNTER), A., 263.

s-Phenylbutylthiocarbamides, p-bromo- (Hunter and Soyka), A., 263.

a-Phenyl-n-butyramide (RAMART and AMAGAT), A., 241.

a-Phenylbutyric acid, a-p-amino-, and its acetyl derivative, and a-p-nitro-, its morphine salt (Fourneau and Sandulesco), A., 559.

a-cyano-, derivative of (RISING and ZEE), A., 359.

γ-Phenylbutyric acid, ethylamide of, and aa-dichloro-, and its derivatives (v. Braun, Jostes, and Münch), A., 548.

y-Phenylbutyric acid, y-amino-, and its hydrochloride (DARAPSKY and van der Beck), A., 672.

Phenylbutyronitrile, a-p-nitro- (Fourneau and Sandulesco), A., 559.

5-Phenyl-2:3-camphylidene-2:3-dihydrofuran (Lipp, Küppers, and Holl), A., 883.

Phenylcarbamic acid, 3:5-dibromo-2-hydroxy-, ethyl ester (LINDEMANN and SCHULTHEIS), A., 262.

5-Phenyl-1-carbamido-2-pyrrolidone (DARAPSKY and VAN DER BECK), A., 672.

2-Phenylcarbamyl-6-nitroindazole (v. Auwers and Demuth), A.,

Phenylcarbimidediethylhydrazone (HURD and Spence), A., 232. 2-Phenyl-3-carboxymethylcinchoninic acid (v. Braun and Brauns), A., 675.

2-Phenyl-3-γ-carboxypropylcinchonimic acid (v. Braun Brauns), A., 675.

Phenyl a-chloro-\(\beta\)-amino-\(\beta\)-phenylethyl ketone hydrochloride, and its benzoyl derivative (COLEMAN and CRAIG), A., 1190.

N-Phenylchlorobenziminophenyl ethers (Chapman), A., 875. N-Phenyl-2:4:6-trichlorobenziminophenyl ether (Chapman), A.,

2-Phenyl-5-o-chlorophenyl-1:2:5-triazole, 4-hydroxy-. See Benzyl-

ideneaminobenzpyrazolone, 1-o-chloro-. Phenyl-5-chlorostyryl-45-cyclohexen-1-ones, 3-o-hydroxy- (Hell-

BRON and HILL), A., 565. Phenyl-5-chlorostyryl-45-cyclohexen-1-one-2-carboxylic 3-o-hydroxy-, ethyl esters (Heilbron and Hill), A., 565.

2-Phenylcinchoninic acid. See Cincophen.

a-Phenylcinnamonitrile, photochemical addition of bromine to (Berthoud and Nicolet), A., 739.

Phenylcinnamylcyanamide (v. Braun and Tauber), A., 1179.

Phenylcoumalin, synthesis of (KALFF), A., 1196.
3-Phenylcoumarin, 7-mono-, and 5:7-di-hydroxy-, and their derivatives (BARGELLINI), A., 883.

5:7:4'-trihydroxy-, synthesis of, and its triacetyl derivative (Bargellini and Monti), A., 883.

4-Phenylcoumarin, 7-hydroxy-4-3':4':5'-trihydroxy-, and 5:7-di-hydroxy-4-3:4':5'-trihydroxy-, and their acetyl derivatives (BARGELLINI and GRIPPA), A., 465.

Phenylisocrotonic acid, preparation of mixed anhydrido derivatives of benzoylacrylic acid from (CATTELAIN), A., 458.

Phenylcyanoacetic acid, bromo-2:4-dinitro-, chloro-2:4-dinitro-, p-nitro-, 2:4-dinitro-, and 2:4:6-trinitro-, ethyl esters of, and their derivatives (FARBOURNE and FAWSON), A., 244.

Phenyldicyanoarsine (Grischkevitsch-Trochimovski, Mateyak, and Zablotski), A., 1210.

Phenyl- $\alpha\beta$ -dicyanosuccinic acid, $\alpha\beta$ -di-p-nitro-, ethyl ester (FAIR-BOURNE and FAWSON), A., 244.

Phenyldialkylglycols, stereoisomerism in (TIFFENEAU and LEVY), A., 1184.

ε-Phenyldiamylamine, and its hydrochloride (Skita and Wulff), A., 766.

Phenylisodiazomethanes, o-nitro-, reduction of (Chattaway and Walker), A., 353.

Phenyldiazonium fluoborate, and p-nitro- (Balz and Sohiemann),

5-Phenyldibenzophenazonium salts, 2:7-diamino-, 2-nitro-7-amino-, and their acetyl derivatives, and 8-nitro-2-hydroxy- (Kehrmann and Perror), A., 261.

 β -Phenyl-aa-dibenzylethanol, β -amino-, benzoylglycyl derivative (Bettzieche, Menger, and Wolf), A., 45.

2-Phenyl-5:5-dibenzyl-4-methyloxazolines, isomeric (Bettzieche and MENGER), A., 241.

Phenyldidiphenylylamine (Piccard), A., 50.

 δ -Phenyl- γ -diethylaminomethylbutan- β -one, and its hydrochloride and derivatives (Mannich and Curtaz), A., 231.

1-Phenyl-4-diethyl-3:5-diketopyrazolidine, acetyl and formyl derivatives (KAUFMANN), B., 156.

Phenyldiethylphthalan, hydroxy- (BARNETT, COOK, and NIXON), A., 349.

4-Phenyl-1:1-diethylpiperidinium iodide (Mills, Parkin, and WARD), A., 1199.

Phenyldiethyltriazole, I-amino-, and its salts and benzoyl derivative, and I-nitro- (HERNLER and MATTHES), A., 469.

1-Phenyl-3:5-diethyl-1:2:4-triazole, and its salts (Grüner, Beneš, Schubert, and Arman), A., 777.

a-Phenyldiguanide, zinc salt (I. G. FARBENIND.), (P.), B.,

4-Phenyl-3:4-dihydro-5:6-benzocoumarin (Dischendorfer and Danziger), A., 968.

a-Phenyl-aβ-dihydrocoumarilic acid, and its silver salt and derivatives (King), A., 358.

10-Phenyl-5:10-dihydrophenarsazine, and its iodide (AESCHLI-MANN), A., 368.

Phenyl-\(\Delta^{2:6}\)-dihydrophthalide (Berlingozzi), A., 561.

 β -Phenyl- $a\beta$ -dihydropyromucic acid, and its silver salt and δ -bromo-derivative (King), A., 358.

3-Phenyl-2:3-dihydroquinazoline, 2-thio- (Reissert and Schaaf), Phenyldi(2-hydroxy-a-naphthyl)methane, o-nitro-, and its salts

and dimethyl ether (DISCHENDORFER), A., 1201. 2-Phenyl-1:3-diketohydrindene-2-acetic acid, and its salts and derivatives (Rădulescu and Gheorgiu), A., 244.

esters of (Radulescu and Gheorgiu), A., 243.

Phenyl-4:5-diketopyrazoline-3-carboxylic acid, mono- and dibromo-, mono- and di-chloro-, and their esters, phenylhydrazones of (Chattaway and Humphrey), A., 776.

Phenyl-3:6-di-p-methoxyphenyl-1:4-dihydro-1:2:4:5-tetrazine, 1:4-di-p-bromo- (Vanghelovitch), A., 768.

Phenyl 3:4-dimethoxystyryl ketone (Dickinson, Heilbron, and Irving), A., 972.

Phenyl 3:4-dimethoxystyryl ketone, o-hydroxy-, and its acetate (HATTORI), A., S83.

Phenyl-6-dimethylaminobenzthiazoles, 2-amino-, 2-hydroxy-, and 2-nitro- (Bogert and Updike), A., 680.

2-Phenyl-6-dimethylaminobenzthiazolearsinic acids (Bogert and Updike), A., 680.

1-Phenyl-4:7-dimethylbenztriazoles, 5-amino-, 6-chloro-5-hydroxyand 5-nitro-, and their derivatives (FRIES and ARNEMANN), A., 779.

α-Phenyl-βγ-dimethylbutane-αβ-diols, isomeric (TIFFENEAU and Lévy), A., 1184.

a-Phenyl- $\beta\beta$ -dimethyl-n-butylamine, and its salts (Billon), A., 879.

Phenyl-2:6-dimethyldihydropyridine-3:5-dicarboxylic acid, 4-p-hydroxy-, ethyl ester (Emmert, Diefenbach, and Eck), A., 1200.

4-Phenyl-7:9-dimethyl-4:5-dihydrourie acid (Biltz and Bülow), A., 1091.

 β -Phenyl-aa-dimethylethanol, β -amino-, benzoyl derivative (Bett-zieche), A., 45.

β-Phenyl-γγ-dimethyl-α-ethylvalerolactone, δ-hydroxywein, Bräke, Komant, and Morschell, A., 876.

4-Phenyl-1:3-dimethylglyoxalone, and its hydrochloride (BILTZ and Bülow), A., 1091.

4-Phenyl-1:3-dimethylglyoxalone-5-carboxylic acid, and its silver salt and methyl ester (Biltz and Bülow), A., 1091.

5-Phenyl-1:3-dimethylhydantoin, 5-hydroxy- (BILTZ and BÜLOW), A., 1091.

3-Phenyl-2:2-dimethyl-1-hydrindone, 3-hydroxy-, and its derivatives (Weiss and Luft), A., 971.

 γ -Phenyl- $\beta\delta$ -dimethylpentan- γ -ol (STAS), A., 46.

Phenyldimethyl-a-phenylethylammonium chloride (Evans, Mab-Bott, and Turner), A., 644.

Phenyldimethylphthalan, hydroxy- (Barnett, Cook, and Nixon), A., 349.

 β -Phenyl- $\alpha\beta$ -dimethylpropaldehyde, and its semicarbazone (TIF-FENEAU and LÉVY), A., 154.

 α -Phenyl- $\beta\beta$ -dimethyl-n-propylamine, and its salts (Billon), A., 879.

1-Phenyl-3:5-dimethylpyrazole-4-nitrile (Benary), A., 1059.

1-Phenyl-3:4-dimethylpyrazoline (v. Auwers and Heimke), A., 1203.

3-Phenyl-1:5-dimethylpyrazoline, and its picrate (v. Auwers and Неімке), А., 1203.

1-Phenyl-2:3-dimethyl-5-pyrazolone, preparation of derivatives of (I. G. Farbenind.), (P.), B., 460.

Phenyldimethylpyrazolone, amino-, m-nitrobenzamide of (Weil and Bomberg), A., 240.

4-Phenyl-2:6-dimethylpyridines, amino, and nitro, and their salts (EMMERT, DIEFENBACH, and ECK), A., 1200.

4-Phenyl-2:6-dimethylpyridine-3:5-dicarboxylic acid, 4-p-aminoethyl ester and its salts, 4-p-hydroxy-, and 4-p-nitro-, ethyl esters (Emmert, Diefenbach, and Eck), A., 1200.

2-Phenyldimethyl-bz-tetrahydroquinazolines (MITTER and BHATTACHARYA), A., 977.

s-p-Phenyldimethylthiocarbamide, chloro- (Hunter and Styles), A., 680.

Phenyldimethyltriazole, salts of, and its sulphonic acid and its salts (GABEL and SCHMIDEGG), A., 468.

1-Phenyl-3:5-dimethyl-1:2:4-triazole thiocyanate (Brunner and Medweth), A., 468.

1-Phenyl-3:5-dimethyl-1:2:4-triazole, amino-, 1-bromo-, and 1-nitro- and their salts and derivatives (HERNLER and MATTHES), A., 468.

A., 468.
1-p-bromo-, preparation of, and 1-p-cyano-, and its picrate (Hernler), A., 1090.

1-Phenyl-3:5-dimethyl-1:2:4-triazole-4'-carboxylic acid (HernLer), A., 1090.

Phenyldinaphthafluorindine, and its hydrochloride (Kehrmann and Logoz), A., 578.

s-Phenyldinaphthaxanthhydrol, m-nitro-, and its salts and derivatives (Dischendorfer), A., 1201.

Phenyldiphenylamine, and its acetyl derivative (PICCARD), A., 50.

Phenyldi-o-phenylene orthophosphate (Anschütz and Broeker), A., 664.

Phenyl αα-diphenyl-β-methylpropyl ketone, and its ketimine hydrobromide (RAMART and SALMON-LEGAGNEUR), A., 246. Phenyldiphenylylacetaldehyde, and its oxime (DELAVILLE), A.,

Phenyl diphenylylmethyl ketone, and its oxime (Delaville), A., 461.

4-Phenyl-1:1-di-n-propylpiperidinium iodide (MILLS, PARKIN, and WARD), A., 1199.

a-Phenyl $\beta\beta$ -di-p-tolylethylene glycol (Danilov), A., 154.

1-Phenyl-4:6-di-p-tolyl-2-methylpyridinium perchlorate (Diels and Alder), A., 465.

o-Phenylene orthophosphate (Anschütz and Broeker), A., 146.
phosphate (Anschütz and Broeker), A., 661.

1:1'-p-Phenylene-bis-4:5-diketo-2-phenylpyrrolidine (Bodrorss), A., 775.

p-Phenylenebisnitrosohydroxylamine (Bioiavi), A., 142.

o-Phenylenediamine, condensation of, with nitrobenzene (Вооект and МсСоьм), А., 1205.

compound of, with nickel (FEIOL and FÜRTH), A., 1179. m-Phenylenediamine, catalytic preparation of (BRINER, FERRERO,

m-Phenylenediamine, catalytic preparation of (Briner, Ferrero, and Paillard), A., 49.
p-Phenylenediamine, diacyl derivatives of (Brogan), A., 760.

Phenylenediamines, action of nitrobenzene on (CRIPPA and CASTELLI), A., 352.

Phenylenediamines, 2-bromo-, 4-chloro-6-iodo-, and 2-iodo-, and their derivatives (NICOLET and SAMPEY; NICOLET and RAY), A., 869.

 o- and m-Phenylenediamines, di-β-chloropropionyl derivatives (MAYER, VAN ZÜTPHEN, and PHILIPPS), A., 574.

p-Phenylenediamines, substituted, action of nitrous acid on (Reilly and Drumm), A., 760.

m-Phenylenediamine-iminazophthalein (TEWARI and DUTT), A., 977.

Phenylene-1:3-diurethane, 2:4:6-trinitro- (LORANO), A., 1182. Phenylenedihydroxylamine, p-dinitroso- (BIGIAVI and FRANCESOHI), A., 758.

p-Phenylenesulphonylide (STEINKOFF), A., 965.

p-Phenylenedithioldiaeetic acid (Behaghel), A., 149.

Phenylenetri-α-naphthylene-ethylene (Vanscheidt), A., 349. α-Phenylethane, α-nitro-, nitration of (Baker and Ingold), A., 236.

 β -Phenylethane, α -nitro-, and its nitration (Baker and Wilson), A., 550.

Phenylethanesulphonic acids, salts and derivatives of (EVANS, MABBOTT, and TURNER), A., 644.

Phenyl β -ethoxystyryl ketone, isomorphism of (Dufraisse and Gillet), A., 58.

β-Phenylethyl n-propyl ether (Sigmund and Marchart), A., 1054.

α-Phenylethylamine, nitration of (BAKER and INGOLD), A., 236. β-Phenylethylamine, physiological action of (CHEN), A., 589.

nitration of derivatives of (Goss, Hanhart, and Ingold), A., 236.
β-Phenylethylaminoacet-β-phenylethylamide, and its hydro-

β-Phenylethylaminoacet-β-phenylethylamide, and its hydrochloride (v. Braun and Münch), A., 345. α-β''-Phenylethylaminoisohexo-β-phenylethylamide, and its hydro-

chloride (v. Braun and Münch), A., 345. α - β '-Phenylethylamino- β -phenylethylamide hydrochloride (v.

Braun and Münch), A., 345.

 $a-\beta''$ - Phenylethylamino - β - phenylpropion - β' - phenylethylamide hydrochloride (v. Braun and Münch), A., 345.

Phenylethylammonium salts, β-nitro- (Goss, Hanhart, and Ingold), A., 236.

9-Phenyl-10-ethylanthracene (Barnett, Cook, and Wiltshire), A., 881.

 γ -Phenyl- β -ethyl-n-butyric acid, and its chloride (v. Braun and Stuckenschmidt), A., 258.

 γ -Phenyl- β -ethyl-n-butyronitrile (v. Braun and Stuckenschmidt), A., 258.

Phenylethylcarbamyl azide (Stollé, Nieland, and Merkle), A., 885.

Phenylethylcarbinol p-nitrobenzoate (WARD), A., 453.

l-Phenylethylcarbinol (Levene and Mikeska), A., 53. Phenylethylcyanoacetic acid, 2:4-dinitro-, ethyl ester (Fairbourne

and Fawson), A., 244. β-p-Phenylethyldimethylamine, amino-, and 3:4-dihydroxy- and

its salts (KINDLER), A., 759.

β-Phenylethyldipropylamine (KINDLER), A., 759.

Phenylethylene, tetra-p-amino-, and tetrahydroxy-, and their salts (Wizinger and Fontaine), A., 764.

a-Phenyl-β-ethylhexane-aβ-diols, isomeric, and their a- and β-acetonyl derivatives (TIFFENEAU and LEVY), A., 1185.

as-Phenylethylhydrazine, p-nitro-, salts and derivatives of (BARAT-TINI), A., 143.

as-Phenylethylhydrazones, p-nitro- (Barattini), A., 143.

9-Phenyl-10-ethylidene - 9-:10-dihydroanthracene, 1:5-dichloro-(BARNETT, COOK, and WILTSHIRE), A., S81.

2-Phenyl-3-ethylindole, and its picryl derivative (Korczyński, BRYDOVNA, and KIERZEK), A., 256.

 β -Phenylethyl ketones, $a\beta$ -dichloro-, isomeric (Jackson and Pasiut), A., 969.

Phenylethylmalonic acid, methyl ester, preparation of (RISING and TEE), A., 359.

Phenylethyl methyl ketone β -p-hydroxy-, and its derivatives (Mannich and Merz), A., 556.

a-Phenyl- β -ethylpentane- $\alpha\beta$ -diols, isomeric (TIFFENEAU and LÉVY), A., 1185.

4-Phenyl-1-ethylpiperidine, and its salts (MILLS, PARKIN, and Ward), A., 1199.

N-β-Phenylethylpiperidine, and its hydrochloride (KINDLER), A., 759.

N- β -Phenylethylpiperidine, p-hydroxy- (Kindler), A., 760. γ -Phenyl- β -ethyl-n-propyl alcohol (v. Braun and Stucken-

schmidt), A., 258.

γ-Phenyl-β-ethyl-n-propyl bromide (v. Braun and Stucken-**SCHMIDT)**, А., 258.

5-Phenyl-1-ethylpyrazole, and its picrate (v. Auwers and Mausolf), A., 1088.

Phenyl-1-ethylpyrazolecarboxylic acids, and their bromo-derivatives, and methyl ester (v. Auwers and Mausolf), A., 1088. 2-β-Phenylethylquinoline-4-carboxylic acid (John), A., 1200.

s-Phenylethylthiocarbamide, p-bromo- (HUNTER and SOYKA), A.,

Phenylethyltrimethylammonium salts, β -nitro-(Goss, Hanhart, and INGOLD), A., 236.

1-Phenyl-2-ethyl-3:4-trimethylene-5-pyrazolone (Mannich), (P.), B., 869.

Phenylgermanic acid anhydride (ORNDORFF, TABERN, and DEN-NIS), A., 1211.

Phenylglycine, hydroxy-, derivatives of (Shimo), A., 49.

Phenylglyoxal, conversion of, into mandelic acid by (Neuberg and Simon), A., 903.

Phenylglyoxylic acid, 2-hydroxy-, derivatives of (v. Auwers and HERBENER), A., 157.

s-Phenyl-n-heptylthiocarbamide (HUNTER), A., 263.

s-Phenyl-n-heptylthiocarbamide, p-bromo- (Hunter and Sonka), A., 263.

Phenylhexa-arsenoacetic acid, 3-amino-4-hydroxy- (PALMER and Edee), A., 580.

a-Phenyl-△a-n-hexene (Marvel, Hager, and Coffman), A., 1059. s-Phenyl-n-hexylthiocarbamide (HUNTER), A., 263.

s-Phenyl-n-hexylthiocarbamide, p-bromo-, and its melting point (Hunter and Soyka), A., 236, 263.

2-Phenylhydrazido-5-methylthiazole, and its derivatives (DE), A.,

Phenylhydrazine, preparation of (Putochin), A., 554. catalytic decomposition of (Busch and Becker), A., 761. action of cyanogen halides on (Pellizzari), A., 163.

Phenylhydrazine, 3:5-dibromo-4-hydroxy-, and 3:5-dichloro-4hydroxy-, hydrochlorides of (HALL and GIBBS), A., 1181. 2:3-dichloro-4-hydroxy- (FRIES, VORBRODT, and SIEBERT), A.,

Phenylhydrazines, halogen-substituted, action of, on dihydroxytartaric acid (Chattaway and Humphrey), A., 776.

2 - Phenylhydrazino-1-anilino-4:6-di-p-tolyl-2-methyl-1:2-dihydropyridine (Diels and Alber), A., 465.

 β -Phenylhydrazinoethane, α -nitro-, and its salts (Worrall), A., 761. Phenylhydrazones, condensation of, to indoles (Korczyński, BRYDOVNA, and KIERZEK), A., 255.

3-Phenyl-1-hydrindone, 2-mono- and 2:3-di-bromo- (Weiss and LUFT), A., 970.

Phenyl-2'-hydroxybenzoquinonethiolimine, 4-chloro-2-nitro- (GE-BAUER-FÜLNEGG and BEATTY), A., 669.

3-Phenyl-5-a-hydroxybenzylhydantoin (Bergmann and Delis), A., 1202.

3-Phenyl-5-p-hydroxybenzylidenehydantoin (Bergmann andDelis), A., 1203.

Phenylhydroxycyanoacetic acid, bromo-2:4-dinitro-, ethyl ester (FAIRBOURNE and FAWSON), A., 244.

Phenyl-4:4'-dihydroxydi-n-tolylmethane, and its salts and dimethyl ether (ORNDORFF and MoNULTY), A., 557.

Phenyl-α-hydroxyethylsulphone (BAZLEN), A., 843. Phenylhydroxyglyoxime, and its hydrazine salt (Ponzio), A.,

Phenylhydroxylamine, condensation of, with hydroxymethylenehydrindone (Rupe and Wieland), A., 58.

Phenylhydroxylamine, nitroso-, metallic derivatives, solubilities of (PINKUS and MARTIN), A., 406.

Phenylhydroxylamines, nitrosonitro-, and their salts (Bigiavi and Franceschi), A., 758.

Phenylhydroxylaminomethylenehydrindone, and its sodium salt and derivatives (RUPE and WIELAND), A., 58.

Phenyl β -2-hydroxy-5-methoxyphenylethyl ketone, and its derivatives (IRVINE and ROBINSON), A., 1084.

Phenyl 2-hydroxy-5-methoxystyryl ketone (TRVINE and ROBINson), A., 1084.

3-Phenyl-5-(2'-hydroxy-5'-methylphenyl)-5-methylpyrazole(Wittig and Blumenthal), A., 668.

Phenyl 2-hydroxynaphthyl ketone acetate (DISCHENDORFER and Danziger), A., 968.

Phenyl β -m-hydroxyphenylethyl ketone (Tasaki), A., 1078.

Phenyl α-hydroxyisopropyl ketone, and its derivatives (Blaise and HERZOG), A., 645.

3-Phenyl-2:4-dihydroxyquinoline, and its sodium salt and benzoyl derivative (Baumgarten and Kärgel), A., 574.

Phenyl hydroxystyryl ketones, 2:3:4-trihydroxy- (Ellison), A.,

Phenyl 4-hydroxy-m-tolyl ketone, salts of (Orndorff and MoNulty), A., 557.

2-Phenylimino-3-acetyl-5-methylthiol-2:3-dihydro-1:3:4-oxadiazole (P. C. and S. C. GUHA), A., 982.

2-Phenylimino-3:5-diphenyl-2:3-dihydro-1:3:4-thiodiazine (Bose and RAY-CHAUDHURY), A., 981.

7-Phenylimino- 5-hydroxy-4:7-diketo-4:7-dihydrobenziminazole, 6-chloro-, and its derivatives (FRIES, DIECKMANN, and FINGER-LING), A., 781.

4-Phenylimino-6-hydroxy-7-keto-4:7-dihydroindazole, (FRIES and TAMPKE), A., 783.

4-Phenylimino-6-hydroxy-7-keto-2-p-nitrophenyl-4:7-dihydrobenztriazole, 5-chloro- (FRIES, SUDHOFF, and BRETTSCHNEIDER), A.,

4-Phenylimino-6-hydroxy-7-keto-2-p-tolyl-4:7-dihydrobenztriazole, 5-chloro- (Fries, Sudhoff, and Brettschneider), A., 778.

4-Phenylimino-2-hydroxynaphthaquinone, 1-imino- (Soc. Anon. MAT. COL. PROD. CHIM. ST.-DENIS, LANTZ, and WAHL), (P.),

2-Phenyliminoindoxyl N'-oxide (Alessandri), A., 572.

2-Phenylimino-5-methylthiol-2:3-dihydro-1:3:4-thiodiazole (P. C. and S. C. GUHA), A., 981.

2- Phenylimino - 3 - phenyl- 5 -methyl-2:3-dihydro-1:3:4-thiodiazine (Bose and RAY-CHAUDHURY), A., 981.

2-Phenyliminophenyltolyl-2:3-dilydro-1:3:4-thiodiazines (Bose and RAY-CHAUDHURY), A., 981. 2-Phenylimino-5-thiol-2:3-dihydro-1:3:4-thiodiazole, and its deriv-

atives (P. C. and S. C. Guha), A., 981. 2 - Phenylimino - 3 - m - tolyl-5-p-tolyl-2:3-dihydro-1:3:4-thiodiazine

(Bose and RAY-CHAUDHURY), A., 981. 2-Phenylindole, 3-amino-, benzoyl derivative (Robinson and

THORNLEY), A., 158. 3-Phenylindole-2-carboxylic acid, ethyl ester (Manske, Perkin,

and Robinson), A., 265. 2-Phenylindolizine (TSCHITSCHIBABIN), A., 885.

3-Phenyl-1-indone, 2-bromo- (Weiss and Luft), A., 971.

2-Phenyl-5-ketoisoglyoxaline, 4-chloro- (MITTAR and SINHA), A.,

Phenyl-lutidine, p-amino-, and p-hydroxy- (EMMERT, DIEFEN-BACH, and Eck), A., 1200.

N-Phenyl-p-methoxybenziminophenyl other (Charman), A., 874.

Phenyl β -3-methoxy-4-ethoxyphenylethyl ketone (Tasaki), A., 1078. 5-Phenyl-3-methyl-1-allylpyrazoline (v. Auwers and Heimke), A.,

Phenylmethylamidobenzenyl-p-nitrophenylimidine

PYMAN), A., 1061. Phenylmethylamidobenzenylphenylimidine, nitro-(CHEW

PYMAN), A., 1061.

- 3-Phenylmethylamino-1:2-diketo-5-phenyl-∆3-cyclopentene, and its quinoxaline derivative (Diels, Buddenberg, and Wang), A., 253.
- β-Phenylmethylamino-δ-dimethylaminoisopentane (Farbenfabr. vorm. Bayer & Co.), (P.), B., 379.

2- Phenylmethylamino-4-hydroxy-3-keto-5-phenyl-2-methylpyrrol-

- 2-Phenylmethylamino-4-nydroxy-3-keto-5-phenyl-2-methylpyrroline, and its derivatives (Diels, Buddenberg, and Wang), A., 253.
- 2-Phenylmethylamino-3-keto-5-p-anisyl-2-methylpyrroline dioxide (Diels, Buddenberg, and Wang), A., 253.

2-Phenylmethylamino-3-keto-5-phenyl-2-methylpyrroline, and its dioxide (Diels, Buddenberg, and Wang), A., 253.

- 1-Phenyl-2-methylbenziminazoles, chloroamino-, mono- and dichlorohydroxy-, and nitrochloro-, and their derivatives (Fries, Modrow, Raeke, and Weber), A., 780.
- 2-Phenyl-3-methylbenzopyrylium perchlorate (DE), A., 773. 2-Phenyl-5-methylbenzopyrylium salts, 7-hydroxy- (Hirst), A., 1189.
- Phenylmethylbenzthiazoles, amino-, p-hydroxy-, and nitro-(Bogert and Allen), A., 679.
- α-Phenyl-β-methyl-n-butane, and d- and l-a-p-amino-, and their derivatives (GLATTFELD and CAMERON), A., 554.
- a-Phenyl-β-methylhutane-aβ-diols, isomeric (Tiffeneau and Levy), A., 1184.
- β-Phenyl-γ-methylbutyl alcohol (RAMART and AMAGAT), A., 241. γ-Phenyl-β-methyl-n-butyl alcohol (v. Braun and Stuckensohmot), A., 258.
- γ-Phenyl-β-methyl-n-butyl bromide (v. Braun and Stucken-schmidt), A., 258.
- β-Phenyl-y-methyl-n-butylamine hydrochloride (Ramart and Amagat), A., 241.
- α-Phenyl-β-methylbutyramide (RAMART and AMAGAT), A., 241. β-Phenyl-α-methyl-n-butyric acid, ethyl ester (v. Braun and
- 3-Phenyl-a-methyl-n-butyric acid, ethyl ester (v. Braun an Stuckenschmidt), A., 258.
- 1-Phenylmethylcarbinol (Levene and Mikeska), A., 53.
- Phenylmethylcarbinol, 2:4-dichloro-, and its bromide (Evans, Mabbott, and Turner), A., 645.
- 2-Phenyl-3-methylcinchoninic acid (v. Braun and Brauns), A., 675.
- 1 Phenyl 3(5) methyl 5(3) cinnamylpyrazole-4-carboxyanilide (Benary and Kerckhoff), A., 45.
- 2-Phenyl-5-methyl-3:4-coumalo-6-benzopyran (Heilbron and Hill), A., 565.
- 10-Phenyl-10-methyl-5:10-dihydrophenarsazine (AESCHLIMANN), A., 368. 9-Phenyl-10-methylene-9:10-dihydroanthracene.
- 9-Phenyl-10-methylene-9:10-dihydroanthracene, l:5-dichloro-(BARNETT, COOK, and WILTSHIRE), A., 881. a-Phenyl-\(\gamma\)-methylenedioxyphenylheptan-\(\gamma\)-one (Borsche), A.,
- 563. 3-Phenyl-5-methylenehydantoin (Bergmann and Delis), A.,
- 1202. as-Phenylmethylethylene glycol, action of acids on (Danilov and
- VENUS-DANILOVA), A., 661. as-Phenylmethylethylene oxide (Danilov and Venus-Danilova),
- A., 661.
 as-Phenylmethylethylene oxide (Danilov and Venus-Danilova),
- A., 661. a-Phenyl- β -ethylpentane- $\alpha\beta$ -diols, isomeric (Tiffeneau
- and Lévy), A., 1185.

 Phenyl-1-methyl-1-ethylpiperidinium salts, isomeric (Mills,
- PARKIN, and WARD), A., 1199. 1-Phenyl-3-methyl-4-(1-hydrocotarnyl)-5-pyrazolone (Oberlin), A., 681.
- 1 Phenyl 3 methyl 4 (1-hydromethylhydrastinyl)-5-pyrazolone (OBERLIN), A., 681.
- 3-Phenyl-2-methylindolizine (TSCHITSCHIBABIN), A., 885.
- Phenyl methyl ketone, pamino, acetyl derivative, bromination of (RAFFORD and DAVIS), A., 564.
- 2-Phenyl-1-methyl-β-naphthindole (Korczyński, Brydovna, and Kierzek), A., 256.
- Phenylmethylnitroamine, 2:3:4:6-tetranitro-, action of m- and p-nitroaniline on (VAN DUIN and KOOLHAAS), A., 757.
- 3-Phenyl-5-methyloxa-3:4-diazole, 2-imino-, salts of (Pellizzari), A., 163.
- 5-Phenyl-3-methylisooxazolecarboxylic acids, pharmacology of, and their derivatives (Dorini), A., 991.

 10-Phenyl-10-methylphenoxarsonium iodide (Aeschlimann), A.,
- 368.
 4-Phenyl-1-methylpiperidine, and its salts (MILLS, PARKIN, and

WARD), A. ,1199.

- α-Phenyl-β-methyl-n-propyl bromide and chloride (Levene and Μικεςκλ), Α., 54.
- Phenyl-3-methylpyrazole, 5-p-bromo- (v. Auwers and Heimke), A., 1203.
- Phenyl-1-methylpyrazolecarboxylic acids, and their bromoderivatives and methyl ester (v. Auwers and Mausolf), A., 1088.
- 5-Phenyl-1-methylpyrazoline, and its picrate (v. Auwers and Heimke), A., 1203.
- Phenylmethylpyrazolines, and their salts and derivatives (v. Auwers and Heimke), A., 1203.
- 1-Phenyl-3-methyl-5-pyrazolone, manufacture of (I. G. FARBENIND.), (P.), B., 714.
- 5-Phenyl-3-methylpyrimidine, 2-hydroxy-, and its hydrochloride (Rupe and Knup), A., 564.
- 2-Phenyl-6-methyl-1:4-pyrone hydrochloride (Borsche and Peter), A., 571.
- 2-Phenylmethylquinolines, and their salts (v. Braun and Brauns), A., 675.
- 3-Phenylmethylquinolines, 2:4-dihydroxy-, and their benzoyl derivatives (BAUMGARTEN and Kärgel), A., 574.
- 6-Phenyl-2-methylquinoline-4-carboxylic acid, 6-p-amino-, acetyl derivative (Berlingozzi and Turco), A., 674.
- Phenylmethylsulphone, p-bromo- (VAN HOVE), A., 555.
- 5-nitro-2-hydroxy-, and 3:5-dinitro-2-hydroxy- (Pollard and Robinson), A., 146.
- Phenylmethylsulphoxide, p-bromo- (VAN HOVE), A., 555.
- 2-Phenylmethyl-Bz-tetrahydroquinazoline, and its picrate, and hydroxy- (MITTER and BHATTACHARYA), A., 977.
- s-Phenylmethylthiocarhamide, p-bromo- (Hunter and Soyka), A., 263.
- 1-Phenyl-3-methyl-3:4-trimethylenc-5-pyrazolone (Mannich), (P.), B., 869.
- γ-Phenyl-β-methyl-n-valeric acid, and its chloride (v. Braun and Stuckenschmidt), A., 258.
- y-Phenyl-β-methyl-n-valeronitrile (v. Braun and Stuckenschmidt), A., 258.
- 2-Phenylnaphthalene-3-carboxylic acid, 1:4-dihydroxy-, ethyl ester (RADULESCU and GHEORGIU), A., 244.
- Phenylnaphthaphenylfluorindine (KEHRMANN and Logoz), A.,
- 2-Phenyl-a-naphthaquinol, 3':4':5'-trihydroxy- and its pontaacetate (Pummerer and Huppmann), A., 770.
- 3-Phenyl-α-naphthaqninoline, 2:4-dihydroxy-, and its benzoyl derivative (Baumgarten and Kärgel), A., 574.
- 2-Phenyl-a-naphthaquinone, 2':4'-dihydroxy-, and 3':4':5'-tri-hydroxy-, and its triacetate (Pummerer and Huppmann), A.,
- A., 770. 2-Phenyl-1:4-naphthaquinone-3-carboxylic acid, ethyl ester (Rădulescu and Gheorgiu), A., 244.
- 1-Phenyl- $\beta\beta$ -naphthathiazole, 3-bromo- (Fries and Buchler), A., 782.
- 2-Phenyl-1:2-naphthatriazoles, amino- and chloroamino- (I. G. FARBENIND.), (P.), B., 275.
- 1-Phenyl-aβ-naphthatriazolequinone (Charrier), A., 63.
- 2-Phenyl- $\beta\beta$ -naphtha 1:2:3 triazole 4:9 quinones, dihydroxy-(Beretta, Massarotti, and Scalla), A., 577.
- 1-Phenylnaphthpyrazolones (STOLLÉ, NIELAND, and MERKLE), A., 1204.
- Phenyl-2-naphthylamines, 1-o'-amino-, and hydroxy-1-o-amino-, and their hydrochlorides (Fuons and Niszel), A., 257.
- Phenyl-a-naphthylamine-8-sulphonic acid, manufacture of (GIBBS, FREDERICK, and Du Pont de Nemours & Co.), (P.), B., 317.
- Phenylnaphthylcarbamyl azides and chloride (Stollé, Nieland, and Merkle), A., 1204.
- 9-Phenyl-10-a-naphthyldihydroanthranol (BARNETT, Cook, and WILTSHIRE), A., S81.
- Phenylnaphthylglyoxals, hydrazones of (Ruggli and Jenny), A., 461.
- Phenyl a-naphthyl ketone, crystallography of (Woyni), A., 191.
- α-Phenyl-α-1-naphthyl-γ-3-pyridyl-Δα-butene, γ-hydroxy- (Hurd and Webb), A., 337.
- a-Phenyl-β-nitroacenaphthylethane, ββ-dichloro- (Ruggli and Jenny), A., 461.
- Phenyl-4-nitro-2-amino-α-naphthylamine (ΚΕΗΓΜΑΝΝ and PERROT), A., 261.
- 2-Phenyl-3-p-nitrobenzeneazoindole (Korczyński, Brydovna, and Kierzek), A., 256.

N-Phenylnitrobenziminophenyl ethers (Chapman), A., 874. Phenyl-o-nitrobenzyldimethylammonium chloride (Baw), A., 758.

 β - Phenyl - α - p - nitrophenyl - γ - p - methoxybenzoylbutyronitrile (ALLEN), A., 562.

2-Phenyl-5-m-nitrophenyloxazole (Ingham), A., 460.

Phenylnitrosohydroxylamine, m- and p-nitro- (BIGIAVI), A., 142. 3-Phenyl-1:3:4-oxadiazole, 2-imino-5-hydroxy- (Pellizzari), A., 163.

5-Phenyl-1:2:4-oxadiazole, 3-bromo- and 3-chloro- (Ponzio and Avogadro), A., 470.

3-hydroxy-, salts and derivatives of (Ponzio), A., 462.

4-Phenylisooxazole (Rupe and Knup), A., 564.

Phenyloxazoles, 2:5-dinitro- (Ingham), A., 460.

a-Phenyl-Δa-pentene-γδ-dione δ-oxime benzyl ether perchlorate, and its transformation (DIELS, BUDDENBERG, and WANG), A., 253.

δ-phenylmethylhydrazone, transformation of (Diels, Budden-BERO, and WANG), A., 253.

10-Phenylphenoxarsine, and its oxides (AESOHLIMANN), A.,

Phenyl α-phenyl-α-benzylpropyl ketone, and its derivatives (RAMART and SALMON-LEGAGNEUR), A., 246.

Phenyl phenyldidiphenylylmethyl ketone (Gomberg and Bach-MANN), A., 246.

Phenyl β -phenylethyl ketones, hydroxy- (Tasaki), A., 1078.

Phenyl a-phenyl-a-ethylpropyl ketone, and its derivatives (RAMART and Salmon-Legagneur), A., 246.

Phenyl-3-β-phenylethylpyrazole-5-carboxylic acid, 1-nitrocyano-, ethyl ester (Borsone and Peter), A., 571.

Phenyl a-phenyl-a-methylpropyl ketone (RAMART and SALMON-LEGAGNEUR), A., 246.

Phenyl-y-phenylpropargylcyanamide (v. Braun and Tauber), A., 1179.

2-Phenyl-3-y-phenylpropylcinchoninic acid (v. Braun and Reut-TER), A., 258.

Phenyl y-phenylpropyl ketone (Orekhov and Tiffeneau), A., 1076.

Phenylphosphinodicarboxylic acid, ethyl ester (JoB and Duson-LIER), A., 785.

α-Phenylphthalide-α-carboxylic acid, ethyl ester (CORNILLOT), A.,

2-Phenylpiperidine hydrate (Benary), A., 573.

 δ -Phenyl- γ -piperidinomethylbutan- β -one, and its hydrochloride and derivatives (Mannich and Curtaz), A., 231.

Phenyl-y-piperidinopropylcarbinol (Petit), A., 774.

Phenyl y-piperidinopropyl ketone, and its semicarbazono (Petit), A., 774.

3-Phenyl-4-piperonyl-2-benzylidene-5-methyl-43-cyclopenten-1-one (O'Donoghue, Ryan, and Keane), A., 462.

3-Phenyl-4-piperonyl-5-methyl-42-cyclopenten-1-one (O'Dono-GHUE, RYAN, and KEANE), A., 462. β-Phenylpropaldehyde, and its semicarbazone (DANILOV and

VENUS-DANILOVA), A., 662.

 α -Phenylpropane, $\beta\beta$ -ehloronitro-, and $\beta\beta$ -chloronitroso- (RHEIN-BOLDT and DEWALD), A., 582. 3-Phenylcyclopropane-1:2-dicarboxylic acid, and 1-hydroxy-, and

their esters (FEIST and CHEN), A., 150. a-Phenylpropanesulphonic acids, salts and derivatives of (Evans,

MABBOTT, and TURNER), A., 644.

y-Phenylpropargyl bromide (v. Braun and Tauber), A., 1179. γ-Phenylpropargylaniline, and its salts (v. Braun and Tauber), A., 1179.

Phenylpropargylcyanamide (v. Braun and Tauber), A., 1179. Phenyl propenyl ketone (Dufraisse and Demontvionier), A.,

γ-Phenyl-Δo-propinene (Bert and Dorier), A., 47, 1061; (Bour-GUEL), A., 337.

Phenylpropionic acid, o-amino-, manufacture of salts and derivatives of, and its homologues (I. G. FARBENIND.), (P.), B., 810.

 α -Phenylpropionic acid, α -amino- β -hydroxy-, and its hydrochloride (KERR), A., 969.

B-Phenylpropionic acid, electrochemical oxidation of (FICHTER and Schlager), A., 570. silver salt (Danilov and Venus-Danilova), A., 662.

 β -Phenylpropionic acid, l- α -amino- β -3:4-dihydroxy-, determination of (Sohmalfuss and Lindemann), A., 688.

 β -amino-, and β -amino-m-nitro-, and their hydrochlorides (RODIONOV and MALEVINSKAJA), A., 137.

 β -Phenylpropionic acid, $\alpha\beta$ -dibromo- and $\alpha\beta$ -dibromonitro-, menthyl esters (McCluskey and Sher), A., 363.

dihydroxy-, lactones from, and their acetyl derivative (FIGHTER and Schlager), A., 570.

β-p-chloro-, ethyl ester (KINDLER, TREU, and Fürst), A., 339. β-Phenylpropionmethylamide, α-amino-, hydrobromide, a-bromo- (v. Braun and Münch), A., 345.

 β -Phenylpropion- β' -phenylethylamide, α -amino- and α -bromo- (v. (Braun and Münch), A., 345.

β-Phenylpropionylpyruvic acid, ethyl ester, and its copper derivative (Borsone and Peter), A., 571.

 β -Phenylpropiophenone, α -bromo- γ -nitro-, action of methylalcoholic potassium acetate on (Konler and Goodwin), A., 262.

l-a-Phenylpropyl bromide and chloride (Levene and Mikeska), A., 53.

a-Phenyl-n-propylamine, and its salts (Billon), A., 879.

a-Phenylisopropylamine, nitration of (Baker and Ingold), A.,

y-Phenylpropylammonium salts, p-nitro- (Ingold and Wilson), A., 553.

γ-Phenylpropylamylamine hydrochloride (Skita and Wulff), A.,

9-Phenyl-10-propylanthracenes, and 1:5-dichloro- (BARNETT, Cook, and Wiltshire), A., 881.

a-Phenyl-β-isopropylbutane-aβ-diols, isomeric (Tiffeneau and

LÉVY), A., 1185. Phenylpropylcarbamyl chlorides, and their decomposition by

ethyl alcohol (Price), A., 142. Phenyl-n- and -iso-propylcarbinols (Levene and Mikeska), A., 53.

9-Phenyl-10-n-propyldihydroanthranol, and 1:5-dichloro- (BAR-NETT, COOK, and WILTSHIRE), A., 881. α -Phenyl- β -propylhexane- $\alpha\beta$ -diols, isomeric (Tiffeneau and

LÉVY), A., 1185. 9-Phenyl-10-propylidene-9:10-dihydroanthracene, 1:5-dichloro-

(BARNETT, COOK, and WILTSHIRE), A., 881. 4-Phenyl-1-n-propylpiperidine, and its salts (MILLS, PARKIN, and

Ward), A., 1199. s-Phenyl-n-propylthiocarbamide, p-bromo- (Hunter and Soyka),

A., 263. γ -Phenylpropyltrimethylammonium picrate, and p-amino-, acetyl

derivative, nitro-, and m-nitro-p-amino-, acetyl derivative (Incold and Wilson), A., 553.

5(3)-Phenylpyrazole-3(5)-earboxylic acid, and its methyl ester (v. Auwers and Mausolf), A., 1088.

3-Phenylpyrazole-5-carboxylic acid, 4-hydroxy-, ethyl ester (Bertho and Nüssel), A., 1204. Phenylpyrazolines, and their picrates and derivatives (v. Auwers

and HEIMKE), A., 1203. 5-Phenylpyrazoline-3-carboxylic acid (v. Auwers and Heimke), A.,

1-Phenyl-5-pyrazolone-3-carboxylic acid, and 4-amino-, and their derivatives (Chattaway and Humphrey), A., 1087.

1:8-Phenylpyridazone-4-naphthaquinone, 1:8-p-nitro- (Dziewoń-SKI, GALITZERÓWNA, and KOCWA), A., 359. Phenylpyridines, and amino-, and nitro-, and their salts (Forsyth

and Pyman), A., 255. Phenylpyridinium betaine and salts, 2:5:6-tribromo-3:4-dihydroxy-

(ZETZSOHE and SUKIENNIK), A., 365.

2-Phenylpyridobenztriazole, and its salts (Beretta and Benati), A., 577.

2-Phenyl-4-pyridone (Borsche and Peter), A., 570.

α-Phenyl-α-3-pyridylethylene (HURD and WEBB), A., 336.

5-Phenylpyrimidine, 2-hydroxy-, and its silver salt and hydrochloride (Rupe and Knup), A., 564. 2-Phenylpyriminazole methiodide (Tschitschibabin), A., 468.

2-Phenyl-1:4-pyrone, and its derivatives (Borsche and Peter),

A., 570. 2-Phenyl-1:4-pyrone-6-carboxylic acid, and its ethyl ester (Borsohe and Peter), A., 570.

5-Phenyl-2-pyrrolidone, and 1-amino-, and its hydrochloride and derivatives (Darapsky and van der Beck), A., 672.

Phenylquinazoline-4-carboxylic acids, 2-hydroxy-, and their ethyl esters, and 2-o-nitro- (BOGERT and McCOLM), A., 1205.

1-Phenylisoquinoline, and its picrate (Rosenmund, Nothnagel, and RIESENFELDT), A., 367.

Phenylquinolines, hydrogenated (SRITA, WULFF, FEHR, WINTER-HALDER, and MEETZ), A., 157.

4-(2'-Phenylquinoline-3'-azo)-2-hydroxy-3-phenylquinoline (Ber-LINGOZZI), A., 675.

2-Phenylquinoline-4-carboxylic acid (atophan; cinchophen), pharmacological activity of (v. Braun and Brauns), A., 675. salts of (Crossley, Dolt, and Calco Chemical Co.), (P.), B.,

distillation of (John and Kahl), A., 467.

magnesium salt (Crossley and Calco Chemical Co.), (P.), B.,

 β -substituted derivatives of (Berlingozzi and Turco), A., 1087. determination of, and indicators for its titration (PALKIN), B., 763.

determination of, in tablets (WARREN), B., 266.

2-Phenylquinolinecarboxylic acids, and their salts and esters (v. Braun and Brauns), A., 675.

3-Phenyl-2-quinolone-4-carboxylic acid, 6-iodo- (Aeschlmann), A., 256.

2-Phenyl-3-y-quinolyl-n-butyric acid, and its salts and methyl ester (v. Braun and Brauns), A., 675.

"3-Phenylsaccharin," C-hydroxy- (Oddo and Mingola), A., 874. δ-Phenylsemicarbazidedithiocarboxylio acid, methyl ester (P. C. and S. C. Guna), A., 982.

Phenylserine, derivatives of (Bergmann and Delis), A., 1202. Phenylstearic acid, and its salts and derivatives (NICOLET and

DE MILT), A., 560.

Phenylstibinic acid, 3-chloro-4-amino-, acetyl derivative, sodium salt (Nryogy), A., 983.

Phenyl styryl ketone, action of nitrogen trichloride on (COLEMAN and CRAIG), A., 1190.

Phenyl styryl ketones (chalkones), synthesis of (SIMONIS and LEAR), A., 154.

stereoisomerism and isomorphism of (Dufraisse and Gillet), A., 58, 461.

Phenyl styryl ketones, 2:4-di- and 2:3:4-tri-hydroxy- (Ellison), A., 880.

Phenylsuccinic acid, bromo-2-amino- and 5-iodo-2-amino- (AESCH-LIMANN), A., 256.

Phenyltetra-arsenoacetic acid, 3-amino-4-hydroxy- (Palmer and Edee), A., 580.

Phenyl 1:2:3:4-tetrahydro-6-carbazyl-a-aminostyryl kctone (Faw-CETT and ROBINSON), A., 1088.

1-Phenyltetrahydroindazole-3-carboxylic acid, and its methyl ester (v. Auwers), A., 576.

N-Phenyl-ar-tetrahydro-a-naphthylamine (Soc. Chem. Ind. in Basle), (P.), B., 809.

2-Phenyl-5:6:7:8-tetrahydro-3-pyridazone, 4-hydroxy- (v. Auwers),

2-Phenyl-Bz-tetrahydroquinazoline, and 4-hydroxy- (MITTER and Bhattacharya), A., 977.

3-Phenyl-1:2:3:4-tetrahydroquinazoline, 4-hydroxy-2-thio-, uniand bi-molecular (REISSERT and SCHAAF), A., 62.

3-Phenyl-1:2:3:4-tetrahydroquinazoline-4-carboxylic acid, 4-hydroxy-2-thio-, and its salts and esters (Reissert and Schaff), A.,

2-Phenyl-1:2:3:4-tetrahydroquinoline-4-carboxylic acid, and its derivatives (Skita, Wulff, Fehr, Winterhalder, and MEETZ), A., 157.

Phenyltetrazole (Knoll & Co. and Schmidt), (P.), B., 173. Phenyldithiocarbamic acid, salts and methyl ester of (Molony, NIKAIDO, BROWN, CLAUSE, and PITCAIRN), (P.), B., 789.

Phenylthiocarbamide, 2:3-dichloro-, and 3:4:6-trichloro- (Dyson, GEORGE, and HUNTER), A., 141.

Phenylthiocarbamides, bromo-, dibromo-, cyano-, dicyano-, and iodo- (Dyson, George, and Hunter), A., 351.

Phenyldithiocarbazinic acid, condensation of alkyl esters of, with phenacyl bromide, and n-propyl ester (Bose), A., 63.

Phenylthiocarbimide, action of, on isatic acid (Reissert and Schaaf), A., 62.

derivatives of, with piperazine and semicarbazide (Rosen-Thaler), A., 451.

Phenylthiocarbimides, bromo-, dibromo-, cyano-, dicyano-, and iodo (Dyson, George, and Hunter), A., 351.

2:3-dichloro-, and trichloro- (Dyson, George, and Hunter), A., 141.

Phenylthiolacetamide, p-chloro- (KINDLER, TREU, and FÜRST), A., 339.

γ-Phenylthiolbutyramide (KINDLER, TREU, and FÜRST), A., 339. Phenylthiol-p-hydroxyanilide, 4-chloro-2-nitro- (Gebauer-Fül-NEGG and RIESZ), A., 52.

Phenylthiol-2:4-dihydroxyanilide, 4-chloro-2-nitro-, silver salt (GEBAUER-FÜLNEGG and BEATTY), A., 669.

#-Phenylthiopropiondimethylamide (KINDLER), A., 759.

 δ -Phenylthiosemicarbazide dithiocarboxylic acid. methyl ester (P. C. and S. C. GUHA), A., 981.

Phenyl-a-o-toluidino-a-semicarbazidoethyl p-hydroxy-, ketone. semicarbazone (v. Auwers and Lorenz), A., 60.

Phenyl-p-tolylsulphone, 2:5-dihydroxy-, p-toluenesulphonate (Borsche and Frank), A., 51.

Phenyltriazinecarboxylic acid, and its amide and their derivatives (Bertho), A., 679.

Phenyltriazole-4:5-carboxylic acids, and p-nitro-, and their derivatives (Fries and Arnemann), A., 779.

1-Phenyl-1:2:5-triazole-3:4-dicarboxylic acid, (BERETTA, MASSAROTTI, and SCALIA), A., 577.

Phenyltriazolocoumarandione (FRIES, SUDHOFF, and BRETT-SCHNEIDER), A., 778.

5:6-(Phenyltriazolo)quinolines, and their methiodide (FRIES and HADJID), A., 779.

2-Phenyl-4-trimethoxybenzylideneoxazolone (Freudenberg and HARDER), A., 251.

1-Phenyl-3:4-trimethylene-5-pyrazolones, and 1-p-bromo- (Manмісн), (Р.), В., 869.

Phenyltrimethylpyrazolinium iodides (v. Auwers and Heimke), A., 1203.

Phenyltrimethylstannane (Bulland and Robinson), A., 685. β -Phenyl- $\alpha\gamma\gamma$ -trimethylvalerolactone, δ -hydroxy-, and its deriv-

atives (MEERWEIN, BRÄKE, KOMANT, and MORSCHEL), A., 876. a-Phenyl- $\beta\beta\beta$ -triphenylethane, o-amino- (van Alphen), A., 867. a-Phenyl-a-p-tolylethylene, β-bromo- (Hurd and Webb), A., 336.

 β -Phenyl- α -p-tolylethylene oxide (Tiffeneau and Lévy), A., 769. Phenyl β -p-tolylethyl ketone (Tasaki), A., 1078.

4-Phenyl-1-o-tolyl-1-ethylsemicarbazide (Stolle, Nieland, and MERKLE), A., 886.

2-Phenyl-3-p-tolylindone (Weiss and Fastmann), A., 466.

Phenyl-p-tolylmethylamine, and its hydrochloride (BILLON), A., 879.

β-Phenyl-δ-m-tolylthiosemicarbazide (Bose and Ray-Chaudпику), А., 981.

Phenylnrethane, equilibrium of antipyrine with (MAZZETTI), A., 22. additive compound of cocaine hydrochloride and (Santesson), A., 64.

δ-Phenylvalerethylamide, and aa-dichloro- (v. Braun, Jostes, and Müncn), A., 547.

δ-Phenylvaleric acid, and aa-dichloro-, derivatives of (v. Braun, JOSTES, and MÜNCH), A., 547.

9-Phenylxanthen, 3:4:5:6-tetrahydroxy-, and its tetra-acetate (Orndorff and Wang), A., 672. Philothion (Rossi), A., 1221.

Phloroglucinol-citraconein (DHAR and DUTT), A., 969.

Phloroglucinol-2:6-disulphonic acid, anilide and chloride of (Por-LAK and GEBAUER-FÜLNEGG), A., 354.

Phloroglucinol-iminazophthalein (TEWARI and DUTT), A., 977. Phloroglucinol-itaconein (DHAR and DUTT), A., 969.

Phloroglucinoltrisulphonic acid, salts of (Pollak and Gebauer-Fülnegg), A., 354.

Phloroisohexophenone, dioximino- (KARRER and BLOCH), A., 564. Phorone nitrosochlorides (LYNN and LEE), A., 545.

Phosphagen, physiological significance of (P. and G. P. EGGLETON), A., 990.

Phosphatase, function of, in bone formation (KAY), A., 174. of bone (Martland and Robinson), A., 699.

renal, in nephritis (BRAIN and KAY), A., 1106.

Phosphates. See under Phosphorus.

Phosphate rock, extraction of, with by-product hydrochloric acid (Fox and WHITTAKER), B., 296.

treatment of (Blumenberg and Stockholder's Syndicate), (P.), B., 792.

decomposition of, by sulphuric acid (STOLLENWERK), B., 554. absorption of nitrogen oxides in aqueous suspensions of (Mon-RIS), B., 886.

Florida, availability of phosphoric acid in (Shutt), B., 558. Phosphatide, diamino-, from ox-spleen (WALZ), A., 691.

Phosphatidic acid (Channon and Chibnall), A., 1227.

Phosphinocarboxylic acids (Arbusov and Dunin), A., 346; (Arbusov), A., 756.

Phosphino-magnesium compounds (Job and Dusollier), A., 785. β-Phosphinopropionic acid, and its barium salt (Arbusov and DUNIN), A., 346. Phosphites. See under Phosphorus.

Phosphonitrilic chlorides, and their transformations (Schenck),

A., 264. Phosphopeptone, and its constitution (RIMINGTON), A., 1211. Phosphors, validity of Stokes' law for (SCHMIDT and ZIMMERmann), A., 187.

alkali copper or silver halide, absorption spectra of (SMAKULA), A., 1125.

alkali halide (Pohl and Rupp), A., 91.

alkali lead or thallium halide, absorption spectra of (Hilsch), A., 1125.

alkaline-earth, spectra of (SCHMIDT), A., 712.

samarium, emission spectra of (Tomaschek), A., 1125.

mixed samarium sulphide, lattice constants of (RUMPF), A., 1125. Phosphorescence, excitation of, by slow cathode rays (ERNST), A.,

relation between fluorescence and (VAVILOV and LEVSCHIN), A., 918.

Phosphorescent substances, specific inductive capacity of (DACOS), A., 497.

Phosphoric acid. See under Phosphorus.

Phosphorite, Isume, production of available phosphates from (Roshdestvenski), B., 950.

Phosphorous acid. See under Phosphorus.

Phosphorus, manufacture of (I. G. FARBENIND. and CHEM. FABR. GRIESHEIM-ELEKTRON), (P.), B., 556.

and its oxides (I. G. FARBENIND.), (P.), B., 601.

and its pentoxide and phosphoric acid (I. G. FARBENIND.), (P.), B., 299.

and activated charcoal (Soc. L'EXPLOIT. PROC. URBAIN), (P.), B., 555.

removal of, by metal-bearing solutions (STEVENS, NORRIS, and Watson), (P.), B., 481.

and its hydrogenated compounds, recovery of, as phosphoric acids (URBAIN CORP.), (P.), B., 748.

arc spectrum of (McLennan and McLay), A., 802.

ionised, series spectra of (Bowen), A., 490.

ultra-violet spectrum of the glow of (EMÉLEUS and PURCELL),

vapour, chemiluminescence of (Bowen and Pells), A., 633. ionisation of (Busse), A., 633, 708.

mist, production of (CHEM. FABR. STOLTZENBERG), (P.), B., 815. allotropy of (IPATIEV and NIKOLAIEV), A., 121.

vapour, oxidation of, at low pressures (Chariton and Walta), A., 122; (Bodenstein), A., 326.

ionisation in slow oxidation of (Busse), A., 4.

reaction of, with potassium iodate, and its volumetric determination (BUEHRER and SCHUPP), A., 222.

precipitation of (IPATIEV and NIKOLAIEV), A., 739.

circulation of, in nature (Egorov), A., 586.

relation between excretion of, in urine and consumption of carbohydrates (Piazza), A., 374. poisoning. See under Poisoning.

lipoid and nucleic, balance of, during growth (JAVILLIER, ALLAIRE, and ROUSSEAU), A., 791. white, velocity of oxidation of (ZAWIDZKI), A., 1149.

Phosphorus alloys with iron (HAUGHTON), B., 445.

Phosphorus compounds with metals (Koehler), (P.), B., 11, 815*. in plants (Koehler), A., 798.

Phosphorus pentabromide, transport of ions in bromine solutions

of (FINKELSTEIN), A., 521. trichloride, action of, on dimethylaniline (RAUDNITZ and

HELLER), A., 454. pentachloride, use of, in preparation of glycerides (NEWMAN,

TRIKOJUS, and HARKER), A., 40. action of, on derivatives of as-methylethylethyleno glycol

(SEYER and CHALMERS), A., 442.

chlorides, action of benzoyl peroxide on (REYNHART), A., 356. oxychloride. See Phosphoryl chloride.

pentafluoride, preparation of (Lucas and Ewing), A., 637. halides and nitride, production of (Miner), (P.), B., 778. trihydride (phosphine), energy of formation of (Drummond),

A., 940.

sensitiveness of test papers to (WILMET), A., 744. determination of, in mixtures (WILMET), A., 846.

di- and tri-iodides, preparation of, and their melting points (GERMANN and TRAXLER), A., 328.

suboxide (CHALK and PARTINGTON), A., 950. pentoxide, manufacture of (PARSONS, PEACOCK, and METAL RESEARCH CORP.), (P.), B., 75; (I. G. FARBENIND.), (P.), B., 331*; (I. G. FARBENIND. and CHEM. FABR. GRIESHEIM-ELERTRON), (P.), B., 601. regeneration of catalysts used in (I. G. FARBENIND.), (P.),

B., 409.

Phosphorus pentoxide, equilibrium of boron trioxide, water, and (Levi and Gilbert), A., 1030.

determination of, as magnesium ammonium phosphate (McNabb), A., 435.

determination of, volumetrically, in fertilisers (Cameron and Dow), B., 919.

Phosphorus acids, manufacture of hydrogen and (I. G. FARBEN-IND.), (P.), B., 522.

Hypophosphorous acid, dissociation constant of (Kolthoff), A.,

and its salts, determination of, with permanganate (Köszegi), A., 436.

Hypophosphorie acid, preparation of (SPETER), A., 1156. Phosphorous acid, dissociation constants of (KOLTHOFF), A.,

Phosphoric acid, manufacture of (Blumenberg and Stock-(P.), B., 217; (Brassert, Waggaman, and Easterwood), (P.), B., 331*; (Waggaman, Easterwood, and Victor Chemical Works), (P.), B., 521; (I. G. Farbenind. and Chem. Fabr. Griesheim-Elektron), (P.), B., 555; (URBAIN), (P.), B., 937.

and its acid salts (CHEM. FABR. BERNBURG WAGNER &

Co. and Finkelstein), (P.), B., 298. from producer gas (Kyber), (P.), B., 298. production of hydrogen and (I. G. Farbenind.), (P.), B., 481. conductivity of solutions of (CAMPBELL), A., 113.

electrical conductivity of mixtures of, with hydrochloric and sulphuric acids (Kailan and Schroth), A., 23.

electrical conductivity of mixtures of sulphuric acid and (MEYER and PAWLETTA), A., 315. dissociation constants of (KOLTHOFF), A., 728.

and its salts, action of fluorine on (FIGHTER and BLADER-

GROEN), A., 741.

distinction between normal and acid salts of (Rossi), A., 125. elimination and formation of, in the liver (RIESSER), A., 174. influence of ions on exchange of, in minced muscle (Selter), A., 479.

determination of (HAROMORI), A., 1160.

determination of, and its salts (Shireman), A., 331.

determination of, colorimetrically (Bordeianu), B., 422.

determination of, gravimetrically (HAHN, VIEWEG, and MEYER), A., 535. determination of, by the molybdate-magnesia method

(McCandless and Burton), B., 414. determination of, in muscle extracts (LOHMANN and JEN-

drassik), A., 69. determination of, iodometrically in plant products and soils

(FRODL), B., 22. determination of, in soils (HISSINK and DEKKER; GERLACH

and Nolte), B., 87; (Neubauer; Engels), B., 120; (Scheronovski), B., 951.

offect of calcium and iron on determination of, in soils (NEMEC), B., 170.

determination of, in urine (LE GUYON), A., 372.

separation of, by means of zirconium salts (OBERHAUSER), A., 222.

Phosphates (Kiehl and Hill), A., 220; (Kiehl and Coats), A., 1042.

activity coefficients of ions in solutions of (Cohn), A., 206. influence of dextrose, alcohol, and carbon dioxide, on hydrogen-

ion concentration of solutions of (BIILMANN and KATAGIRI), A., 516. electrometric study of precipitation of (BRITTON), A., 435.

action of lead salts on aqueous solutions of (Brooks), A., 893. assimiliation of, measured by the bacterial fixation of nitrogen (Truffaut and Bezssonoff), B., 729.

as fertilisers (Nolte and Leonhards), B., 566.

alkali, dissociation pressures of (Kieul and Wallace), A., 312. diacid, manufacture of (PARKER RUST PROOF Co.), (P.), B.,

Rhenania, evaluation of phosphoric acid in (NIKLAS, STROBEL, and Scharrer), B., 198.

determination of, with ceruleomolybdate (GILBERT and Ѕмітн), А., 1116.

determination of, colorimetrically (ATKINS and WILSON), A., 36.

determination of, with molybdenum blue (Deniges), A., 1156. determination of, volumetrically (HAHN and MEYER), A.,

Phosphorus :---

Fluorophosphoric acid, and its ammonium and nitron salts (Lange), A., 532.

Pyrophosphates, action of fluorine on (FIGHTER and BLADERgroen), A., 741.

Tetraphosphorus diiodide triselenide (MAI), A., 1156.

Phosphorus sulphides, formation of, from phosphine (Delachaux), A., 326.

sulphide selenide (MAI), A., 1156.

Phosphorus organic compounds, complex auro-compounds with (I. G. Farbenind.), (P.), B., 797.

Phosphorus bis-2:4:6-trichlorophenoxychloride. See Phosphosal chloride.

pyrocatechyl chlorides (Anschütz and Brooker), A., 146. pyrocatechyl oxychloride (Anschütz), A., 661

Phosphoric acid, compounds of (Zetzscue and Nachmann), A., 127.

aromatic derivatives (Anschütz), A., 663.

esters, synthesis of (Nopzu), A., 539.

with polyhydric alcohols (Soc. Chim. Usines du Rhône), (P.), B., 125*.

Phosphorus determination :-

determination of, in alloys (Salkin), B., 414.

determination of, in blood (GADDUM), A., 68; (Mâchenœuf and ZWILLING; MACHEBREUF), A., 893. determination of, in ferrophosphorus (POND), B., 488.

determination of, in iron and steel (MARQUEYROL and TOQUET), B., 751.

determination of, in oils (van den Driessen Mareeuw), B., 27.

determination of, in organic compounds (Poggi and Polverini),

determination of, in tissues (Hinglais), A., 787.

yellow, determination of small amounts of, in red phosphorus (Kray), B., 701.

Phosphoryl chloride (phosphorus oxychloride), action of, on alkylformanilides (VILSMEIER and HAACK), A., 245.

compounds of sulphur dioxide with (ODDO and CASALINO), A., $31\bar{2}.$

Phosphosal chloride, and 3:5-dichloro- (Anschütz and Wenger), A., 664.

Photoactivity (Lee), A., 74.

Photochemical action, nature of activating radiation in (Taylor and Elliot), A., 1039.

decomposition, sensitisation of, by mercury vapour (Taylor and BATES), A., 217.

gaseous, increase in translational energy of products of Hogness and Franck), A., 947.

reactions, mechanism of (DHAR), A., 216; (HENRI and WURMser), A., 946.

determination of energy of, from intensity of radiation (AUDUBERT), A., 429.

studies (Wobbe and Noves), A., 30; (Kassel and Noves), A., 1154; (REYCHLER), B., 429.

Photochemistry of complex compounds (Schwarz and Tede), A.,

Photocollographic printing plates, production of (DE'Sperati and Argentographica, Ltd.), (P.), B., 715.

Photo-electric effects, normal and selective, electron velocities in (Wolf), A., 913.

emission (HALL), A., 391.

polarimetry. See under Polarimetry.

thresholds, periodicity of (Welch), A., 492.

Photo-electricity and radiochemistry (AUDUBERT), A., 732.

Photo-electrons, energy of (RUDBERG), A., 492.

from X-rays, space distribution of (WATSON), A., 913.

Photo-etching (RIEDER), (P.), B., 829. Photographs, production of, on paper (Jelley), (P.), B., 174*. chromo-, production of (Janzen and Vobach), (P.), B., 157. coloured, production of (Lage), (P.), B., 380. Röntgen-ray (Bernal), A., 9; (Danin), (P.), B., 509. Photographic coatings (Mimosa Art.-Ges), (P.), B., 238.

copies, manufacture of, by reversal (I. G. FARBENIND.), (P.), B., 957.

copying (I. G. Farbenind.), (P.), B., 893*. densities, fog correction of (Pritchard), B., 957.

diffuse and specular (SILBERSTEIN and TUTTLE), B., 621. desensitisers (I. G. Farbenind.), (P.), B., 509; (Kuin), B., 620. developers (Binder), (P.), B., 238*; (Silver Springs Bleaching & Dyeing Co. and Hall), (P.), B., 461. Photographic developers, effects of dilution and stirring on (NIETZ and Whitaker), B., 60.

daylight (BINDER), B., 509. for hot countries (A. and L. LUMIÈRE and SEYEWETZ), B., 620. glycine and metolquinol, comparison of (LOBEL and LEFEVRE), B., 461.

potassium and sodium carbonates in (Lüppo-Cramer), B., 620. emulsions, preparation of (Sheppard, Punnett, and Eastman Kodak Co.), (P.), B., 574.

sensitivity of (RAWLING), B., 125.

oxidising agents for study of sensitivity of (Clark), B., 507. turbidimetry and grain size of (RENWICK), B., 349.

formation of fog in, by dyes (LUPPO-CRAMER), B., 861. comparison of, made with different bromides (CARROLL and HUBBARD), B., 714.

duplex (Mallabar), B., 203.

with mercury compounds (Sheppard, Hudson, and Eastman Kodak Co.), (P.), B., 29.

silver halide, manufacture of (I. G. FARBENIND.), (P.), B., 269, 893; (I. G. FARBENIND, and A.-G. FÜR ANILIN-FABR.), (P.), B., 861.

sensitivity and grain size of (Sheppard and Trivelli), B., 508.

sensitising speeks on grains of (Sheppard, Trivelli, and Wightman), B., 508

exposure, time and intensity in (Tox), B., 60; (Jones, Hall, and Briggs), B., 509.

films (Sheppard, Sweet, and Eastman Kodak Co.), (P.), B., 380; (I. G. FARBENIND.; MARETTE and PATHÉ CINÉMA), (P.), B., 622*.

not sensitive to electrical action (Ратий Симема), (Р.), В., 362. effect of white light and Röntgen rays on (Wilsey and Pritchard), B., 157.

latent image intensification of (WIGHTMAN and QUIRK), B., 268.

high-temperature drying of (PAPESCH and LIPPERMAYR), B., 715. protective layers for (I. G. FARBENIND.), (P.), B., 893.

apparatus for tank development of (STRINGER and STRATTON), (P.), B., 765.

colouring of (Waddingham and Color Cinema Productions; WHEELER), (P.), B., 621.

removal of gelatin from (ROERICH and MOREAU), (P.), B., 861. having lenticular elements (Soc. DU FILM EN COULEURS KELLER-DORIAN), (P.), B., 765.

coloured, production of (Douglass), (P.), B., 798. dichromated gelatin, sensitivity of (Mente), B., 204. gelatin, action of matt-salt on (Limmer), B., 619.

laminated, with a layer of polymerised vinyl chloride (STINCH-FIELD and EASTMAN KODAK Co.), (P.), B., 715. highly sensitive (Specklin), (P.), B., 957.

unsensitised, manufacture of (T. and V. BAUSCH and BAUSCH. jun.), (P.), B., 621.

waste, treatment of (ELLIS, WEBER, and ELLIS-FOSTER CO.). (P.), B., 829.

films and plates, imprinting of (Wolf), (P.), B., 269.

images, production of, on cellulose acetate film (HALL and HILL). B., §61.

reproduction of, on films having lenticular elements (Soc. DU FILM EN COULEURS KELLER-DORIAN), (P.), B., 766.

decomposition of hydrogen peroxide in intensification of (WIGHTMAN and QUIRK), A., 1154. coloured, preparation of (Kelley and Prizma, Inc.), (P.),

B., 715.

latent (Eggert and Reitstötter), B., 620.

formation of (Toy), A., 1042; (TRIVELLI), A., 1154. silver sulphide bromine-acceptor hypothesis of (LAMBERT and WIGHTMAN), B., 765.

action of oxidants on (REYCHLER), B., 429.

time-effect in bleach-out reactions with (LÜPPO-CRAMER).

silver, reduction of intensity of (TAESCHNER), (P.), B., 61. mordanting of, by cupric thiocyanate (A. and L. LUMIÈRE and SEYEWETZ), (P.), B., 318.

inversion by heat (Belliot), B., 174.

materials, measurement of resolving power of (Sandvik), A., 402. use of biochemical light-sensitising extracts in (Sheppard and Eastman Kodak Co.), (P.), B., 61*. light-sensitive, containing tellurium and selenium (Sheppard

and Eastman Kodak Co.), (P.), B., 61*.

28

(P.), B., 541

paper (LETORT and BORDE), (P.), B., 829. preparation of (GAY), (P.), B., 957. contrast of (JONES), B., 317.

B., 93.

tone reproduction in (Jones), B., 621. preparation of coloured images on (Wetl), (P.), B., 957. for making prints from tracings (KAMMERER), (P.), B., 93, gaslight, sulphur toning of (WIEGELB), B., 509. sensitised (Polygraphische Ges.), (P.), B., 765. photometry, measurement of ultra-violet absorption by (Ley and Volbert), A., 1121. plates, calibration of (Hoco and PAYNE), B., 541. latent image intensification on (WIGHTMAN and QUIRK), B., sensitisation of (Leszynski), B., 125. for the visible spectrum (CARROLL), B., 157. sensitivity of, and action of fogging agents (Southworth), B., fogging action of persulphates on (Wightman), B., 765. silver sulphide sensitising of (Sheppard and Wightman), B., hypersensitisation of (Mauge and Richard), B., 238. colour-sensitising of, by bathing (Dundon), B., 174. desensitisation of (RICHARD), B., 238. panchromatisation of (VITERBI), B., 61. law of blackening of (BAKER), B., 461. darkening of, as a function of exposure (VAN DER HELD and BAARS), A., 1154. insolubilisation of gelatin of, by developers (A. and L. LUMIÈRE and SEYEWETZ), B., 620. protection of gelatin coating of (Glaser), (P.), B., 829. Schwarzschild effect of (LUPPO-CRAMER), B., 714, 715. action of adrenaline and of cod-liver oil on (NIEDERHOFF), A., action of potassium permanganate on (Hrdlicka), B., 893. autochrome, hypersensitising of (Ninck), B., 203. halation-free (Zelizx), (P.), B., 765. highly sensitive (Specklin), (P.), B., 957. sensitised and fogged, reversing action of red and infra-red rays on (MIYANISHI), A., 6. silver iodide-gelatin, sensitisation of (Frieser), B., 541. positives, direct, process for (Ica A.-G.), (P.), B., 462; (ZELGER and Pathé Cinéma), (P.), B., 462*.
printing (Rainbow Photo Reproductions), (P.), B., 621; (FLAMMER, SILLIMAN, and RAINBOW PHOTO REPRODUC-TIONS), (P.), B., 622* in colours (DUFAY), (P.), B., 715*. with mercury salts (STEIGMAN), B., 620. surfaces, mercurial (Trist), (P.), B., 429. prints, toning and fixing of (DEVIENNE), (P.), B., 957. ammonia development of (WINKLER and VOLKMANN), (P.), B., 957. coloured (Schweitzer), (P.), B., 350. multi-coloured bromoil (SCHMID), (P.), B., 461. process (MÜHLING), (P.), B., 238.
using asphalt (Wadsworth Watch Case Co.), (P.), B., 542. with synthetic resins (Wadsworth Watch Case Co.), (P.), B., 429. ripening (Lüppo-Cramer), B., 174. reversion (Lubovich), B., 509. sensitivity (Steigmann), B., 174; (Price), B., 380. modified sulphide-nuclei theory of (Southworth), B., 957. theory of effect of thioanilides on (Sheppard and Hudson), of layers on a suitable base (SCHMIDT, KRIEGER, and KALLE & Co.), (P.), B., 462*. shadow-producing agent, manufacture of (RAPP), (P.), B., 893. spectrophotometry (Rössler), A., 6. Photography (Technicolor Motion Picture Corp. and Weaver), (P.), B., 174. process for (Wadsworth Watch Case Co.), (P.), B., 509; (ROUSSEAU; LETORT and BORDE), (P.), B., 829. theory and practice of Carbro process for (Lighton), B., 861. transfer process for (v. Arx), (P.), B., 862*. Herschel effect in (Leszynski), B., 174.

Photography, pre-exposure and the law of reciprocity in Photographic media (Beebe, Herlinger, and Wadsworth Waton (Hrdlička), B., 670. CASE Co.), (P.), B., 61; (WADSWORTH WATCH CASE Co.), production of stained relief images in (Technicolor Motion PICTURE CORP. and WEAVER), B., 157. negatives, positives, and prints, reduction of (TAESCHNER), (P.), ripening nuclei in (STEIGMANN), B., 574. absorption of moisture by anhydrous sodium salts used in (A. and L. Lumere and Sevewerz), B., 398. fogging action of persulphates in (Clark), B., 269; (Wight-MAN), B., 765. colour (Weil), (P.), B., 126; (LETORT and BORDE), (P.), B., 830. "lignose screen" in (Anon.), B., 734. three-colour (DIDIER), (P.), B., 621. indirect three-colour, production of plates and films for (LAGE), (P.), B., 349. See also Kinematograph. Photoluminescence, phenomena of (GAVIOLA and PRINGSHEIM), A., 810. Photomechanical processes (Wadsworth Watch Case Co.), (P.), Photometers (Norton), B., 621. use of discharge tubes filled with noble gases as (KNIEPKAMP), for electric lamps (Gen. Electric Co., Campbell, and Eden), (P.), B., 882 illumination (N.V. Philips' Gloeilampenfabr.), (P.), B., 208. Photometric studies (Schaum and Trautluft), A., 1007. Photometry, photographic. See under Photographic. Photons (Lewis), A., 88. Photo-oxidation by means of fluorescent pigments (GAFFRON), A., Photosensitisation (Bates and Taylor), A., 1153. Photosynthesis of naturally occurring compounds (BALY, DAVIES, JOHNSON, and SHANASSY), A., 1040; (BALY, STEPHEN, and HOOD; BALY and DAVIES), A., 1041. yield of carbon compounds in (Kostytschev, Bazyrina, and Vassiliev), A., 384. o-Phthalaldehydic acids, condensation products of, with phenols and their ethers (Brubaker and Adams), A., 1071. Phthalamic acid, derivatives of (Mannich and Walther), A., 562. Phthalazonecarboxylic acid, methyl ester (Cornillot), A., 1071. Phthalhydrazide (RADULESCU), A., 665. Phthalic acid, alkyl esters, and their decomposition by heat (Nagel and Abelsborff), A., 56. n-butyl ester, metallic salts of (COMMERCIAL SOLVENTS CORP., LITTMANN, BROWN, and BANNISTER), (P.), B., 532. ethyl ester, detection of (Wales), B., 58; (Scott and Will), B., 570. determination of (HANDY and HOYT), B., 315, 398. Phthalic acid, dithio-, esters of (Charravarti and Saha), A., 970. isoPhthalic acid, reduction of (FARMER and RICHARDSON), A., isoPhthalic acid, 2-amino-, derivatives of (Kruber), A., 158. 6-hydroxy-, ethyl ester (Chattaway and Prats), A., 458. Phthalic anhydride, condensation of, with mercaptans (CHAKRAvarti and Saha), A., 970. catalytic hydrogenation of, with platinum oxide (DIAZ AGUIR-RECHE), A., 1188. Phthalide, and its derivatives, velocity of ring-opening of (Tas-MAN), A., 1186. Phthalide-a-carboxylic acid, and its derivatives (Cornillot), A., Phthalidecarboxylic acid, 3:4-dihydroxy-, and its methyl ester (Perkin and Trikojus), A., 56. Phthalidecarboxylic acids, tautomerism in (Cornillot), A., 562, 1069. Phthalimide, N-amino- (RXDULESCU), A., 665. β-Phthalimidodimethyldiethylammonium bromide (HANHART and INGOLD), A., 651. 4-Phthalimidodiphenyl (Scarborough and Waters), A., 656. ζ-Phthalimidohexane-βγ-dione γ-phenylhydrazones (Manske, PERKIN, and ROBINSON), A., 265. 7-Phthalimidomethyl-5:6-dihydro-α-naphthacridine (v. Braun and Jungmann), A., 258. Phthalimidomethylpyridinium bromide (Kipping and Mann), A.,

ω-Phthalimidostyrene, and its compound with hydrogen bromide

Phthalonic acids, tautomerism in, and their derivatives (Cornil-

(ROSENMUND, NOTHNAGEL, and RIESENFELDT), A., 367.

Phthalonanilic acid, derivatives of (Cornillot), A., 1070.

ьот), А., 562, 1069.

Phthalylbenzidine, hydrochloride and acetyl derivative of (Kuhn, JACOB, and FURTER), A., 869.

o-Phthalyldiacetylphenylhydrazine (Kaufmann), B., 155.

Phthalyldi-o-anisidine, hydrochloride and derivatives of (Kuiin, JACOB, and FURTER), A., 869.

o-Phthalyldiformylphenylhydrazine (Kaufmann), B., 155.

o-Phthalylhydrazine (Kaufmann), B., 155.

o-Phthalylhydrazohenzene (Kaufmann), B., 155. o-Phthalylhydrazotoluene (KAUFMANN), B., 155.

Phthalyl-2:7-naphthylenediamine, derivatives of (Kuhn, Jacob, and Furter), A., 869.

o-Phthalyl-p-phenetidine (KAUFMANN), B., 155.

Phthalylphenolphthalein (KAUFMANN and HAAS), A., 1083.

o-Phthalylphenylmethylhydrazine (Kaufmann), B., 155. Phycomyces nitens, action of amino-acids on germination of (Tits),

A., 382. Phyllostachys quilioli (bamboo), free pentose in (Komatsu and

Sasaoka), A., 599. Physalia alkekengi, colouring matter of (KYLIN), A., 669.

Physico-chemical processes, thermodynamic nature of (Tantzov), A., 419.

Physiological fluids, ultra-violet absorption spectra of (Rein-HARD), A., 1104.

surface energy of (VEDENSKI), A., 1104.

colloid-osmotic pressure in (Kroch and Nakazawa), A., 1104. determination of carbon dioxide in (Nioloux), A., 996. determination of chlorides in (BOND and HAAG), A., 996.

determination of hydrogen ions in, with the hydroquinhydrone electrode (GROSSMAN), A., 488.

determination of sulphur in (Pohorecka-Lelesz), A., 478. Physiological specimens, preservation of (BRUNNER and SCHEELE), (P.), B., 208.

Physiology, effect of hydrogen-ion concentration in (Mond), A., 20. Physostigmine. See Eserine.

Phytase, malt (Lüers and Silbereisen), A., 794.

Phytochemistry (Dischendorfer and Grillmayer), A., 59, 249. Phytosterol, irradiated, antirachitic value of (Hess and Sherman), A., 703.

Picea excelsa, constituents of bark of (Zellner), A., 387. Pickling apparatus (Wellman Seaver Rolling Mill Co. and Sмітн), (P.), B., 848.

Pickling liquors, removal of deterrent salts from (MORGAN), (P.), B., 723.

Picolinamide, complex copper salt of (EMMERT and BRANDL), A., 1205.

Picolinic acid, bornyl ester, sulphate, and menthyl ester (Wolf-FENSTEIN), (P.), B., 28.

Picralima klaineana, alkaloids from (HENRY and SHARP), A., 982. Picramic acid, 3:5-dibromo- (Kohn and Karlin), A., 1182.

Picratopentamminocobaltic picrate and hydroxypicrate (DUFF and Bills), A., 1065.

Picric acid, collidine salt (TSCHITSCHBABIN and OPARINA), A., 1086.

scatole salt, transformation of (Oddo and Mingoia), A., 1088. allyl ester, oxidation of, and its dibromo-derivative (FAIR-BOURNE and FOSTER), A., 131.

compound of, with nicotinuric acid (Sendju), A., 468. Picrolonic acid, compound of nicotinuric acid and (Sendju), A., 468.

Pigs, metabolism of, compared to that of dogs (Coombs and HELE), A., 695.

mesenteric fat of. See "Mickerfett."

growing, influence of sodium: potassium ratio on nitrogen and mineral metabolism of (RICHARDS, GODDEN, and HUSBAND), A., 899.

Pigeons, deficiency of vitamin-B in (Kon and Drummond), A., 702.

green plants needed by, to supply vitamin-B (Scheunert and Schieblich), A., 904.

content of glutathione in tissues and blood of (RANDOIN and Fabre), A., 905.

Pigments, manufacture of (Whatmough), (P.), B., 371; (Blumen-FELD and BLUMANN RARE EARTHS CHEMICAL Co.), (P.), B., 756*; (GERLACH), (P.), B., 884.

in a finely-divided state (LEITCH & Co. and EVEREST), (P.), B., 609.

covering power and degree of dispersion of (Hebler), B., 451. determination of particle size of (STUTZ and PFUND), B., 146. relation of yield to particle size of (GREEN and HASLAM), B., Pigments, fixing of (I. G. FARBENIND.), (P.), B., 197.

wetting of (GARDNER), B., 586.

for paints, influence of physical factors on properties of (DE Waele), B., 883.

mixed with oils, preparation of compositions of (Acheson), (P.), B., 947.

oxidised pine oil for (Speicher and Hercules Powder Co.), (P.), B., 452.

brown, containing titanium sludge (Deutsche Gasglühlicht-AUER-GES.), (P.), B., 85.

cadmium (WARD), B., 196; (EIBNER), B., 971.

carbon black, manufacture of (Whatmough), (P.), B., 419. carotinoid, of higher plants (Kylin), A., 669.

chrome, determination of chromium in (Hickson), B., 585. chrome-green, analysis of, by the "ice-cold" oxidation method (Sward), B., 585. cobalt (Fox), B., 50.

coloured, application of, in gelatin or glue solutions by means of sprays (Heinrich), (P.), B., 419. dry, colour number of (Gardner), B., 586

fluorescent, photo-oxidation by means of (GAFFRON), A., 67. mineral, up-grading of (WINKLER A.-G. and STOCKER), (P.), B., 197.

silicate, production of (VAN BAERLE & Co.), (P.), B., 496. titanium, manufacture of (Monk and Irwin), (P.), B., 340*; (Irwin and Monk), (P.), B., 419; (Stephens, Anderson, and Cash), (P.), B., 661; (Zuber and Billy), (P.), B., 822. composite, manufacture of (Klein and Brown), (P.), B., 947. preparation of compounds for (Spence & Sons, Llewellyn, and Crundall), (P.), B., 85.

titanium oxide (Monk and IRWIN), (P.), B., 85.

zinc sulphide (New Jersey Zinc Co.), (P.), B., 259. determination of oil absorption of (KLUMPP), B., 609.

determination of, spectrophotometrically, in presence of coloured impurities (TREIBS), A., 892

separation and analysis of, in lacquers (Hopkins), B., 118. Piling, marine, protection of, against borer attack (RAMAGE and Burd), B., 938.

Pills, determination of atropine in (Ehrismann), B., 891.

Pilocarpine, influence of, on nitrogen excretion (PINCUSSEN and Walter), A., 276. Pimelic acid, derivatives of (Kerschbaum), A., 541.

Pinabietic acid, constitution of (ASCHAN, LEVY, and BRUNOTTE),

A., 1067.

Pinacolinazine (BAIRD and WILSON), A., 1063. Pinacryptol Green (KUHN), B., 620.

Pinacyanol, syntheses of (OGATA), A., 1089.

Pine, formation of essential oils and resins in (PIGULEVSKI), B.,

maritime, influence of age on wood of (PATY), A., 1226.

Pine bark, leaching of (PAVLOVITSCH), B., 230.

extracts, adsorption of fluorescent substances from (GERNGROSS. SANDOR, and Tsou), B., 373.

Pine extract, for medical use (Danischevski), (P.), B., 574. Pine needles, preparation of extracts of (Klostermann and Quast), B., 236; (Bohrisch), B., 267.

Pine oil, American, occurrence of trans-dihydro-α-terpineol in

(ZEITSCHEL and SCHMIDT), A., 772.

Pine resin, acids of (Bobrov), B., 392. Pine wood, preparation of, without lignin reactions (Fuchs), B.,

sulphite process for pulping of (SCHWALBE and BERNDT), B.,

lignin from (Hägglund and Rosenqvist), A., 388. action of dry rot on (Schwalbe and Ekenstam), B., 183. Scotch, sulphite pulp process for (Hägglund), B., 294.

Pineapples, effect of ethylene on enzymes of (REGEIMBAL and HARVEY), A., 599.

preparation of stock food from residues of (Corbett), (P.), B., 171.

Pinene, velocity of racemisation of (SMITH), A., 212. recovery of, from its nitrosochloride, and its nitroanilide (EARL and Kenner), A., 773.

catalytic action of boroacetic acid in action of organic acids with (DUPONT and PASCAUD), A., 883.

action of carbonyl chloride on (GARINO and BOIDI), A., 670. hydrochloride, solid, from pinene or turpentine (Höhn), (P.),

hydrochlorides, liquid (DELÉPINE and CACHAT), A., 156. a-Pinene, formation of terpineol from (GERMUTH), A., 883. d-a-Pinene, action of anhydrous formic acid on (REISMAN), A.,

l-α-Pinene, synthesis of, from nopinene (Austerweil), A., 60.

Pinnaglobin, existence of (HENZE), A., 167. Pinus cembra. See under Cedar, Siberian.

Pinus silvestris, ethereal oil from stems and roots of, compared with wood and needle oils from the same (SEMMLER and v. Schiller), B., 713.

composition of white resin of (ARBUSOV), B., 971.

Piperazine, reaction of, with thiocarbimides (ROSENTHALER), A., 451.

Piperidine, use of, as an alkaline buffer (PRIDEAUX and GILBERT), A., 1029.

action of, on a-bromobenzylideneacetophenone (Dufraisse and Moureu), A., 571.

action of, on a-bromo-a\beta-unsaturated ketones (Dufraisse and Moureu), A., 884.

compound of, with benzoylacetonitrile (Krishnamurti and DEY), A., 766.

reaction of, with halogenonitro-compounds (Le Fèvre and Turner), A., 653.

additive compound of, with mercaptanic platinum compounds (Rây, Bose-Rây, and Guha), A., 444.

Piperidine, 4-amino-, dipicrate (ORTHNER), A., 975.

ω-Piperidlnoacetophenone (DUFRAISSE and MOUREU), A., 572. a-Piperidino-a-acetylbenzylacetophenone (Dufraisse and

Moureu), A., 571.

a-Piperidinoanisylideneacetophenone (Dufraisse and Moureu), A., 884.

Piperidinobenzene, 4-bromo-2-nitro-, 1:3-dibromo-2:4-dinitro-, 2-chloro-4-nitro-, and 4:5-dichloro-1-nitro- (LE Fèvre and TURNER), A., 654.

Piperidinobenzoic acids, nitro-, and their ethyl esters (LE Fèvre and Turner), A., 654.

a-Piperidinobenzylacetophenone, a-bromo-, and its hydrobromide (DUFRAISSE and MOUREU), A., 571.

y-Piperidinobutyronitrile, action of magnesium organic compounds on (Petit), A., 774.

α-Piperidino-αβ-dianisoylethylene (Dupont), A., 1055.

a-Piperidino-aβ-dibenzoylethylene (Duront), A., 1055. 7-Piperidino-2:4-dimethylquinoline, (ROBERTS and 8-nitro-

TURNER), A., 976. 4'-Piperidinodiphenyl, 4-bromo-2:3':5'-trinitro- (LE Fèvre, Moir,

and TURNER), A., 1062. 2-Piperidino-3-keto-5-phenyl-2-methylpyrroline (DIELS, BUDDEN-

BERG, and WANG), A., 253. Piperidinomesityl oxide, and its sulphate (Dufraisse and

Moureu), A., 884. β-Piperidino-γ-methylbutan-γ-ol, and its salts (Krassusky, Stepanov, Kossenko, and Kussner), A., 546.

γ-Piperidinomethylbutan-β-one, and its salts (MANNICH and

CURTAZ), A., 231. β -Piperidino- β -3:4-methylenedioxyphenylisopropyl alcohol, and its

derivatives (Mannich), (P.), B., 507. γ -Piperidinomethylhexan- β -one, $\epsilon \zeta$ -dibromo-, and its hydrobrom-

ide (Mannich and Gollasch), A., 572. γ -Piperidinomethyl- Δ -hexen- β -one, and its salts and derivatives (MANNICH and CURTAZ), A., 231.

 γ -Piperidinomethyl- Δ^{ϵ} -hexen- β -one, a-bromo-, and its hydrobromide (MANNICH and GOLLASCH), A., 572.

 γ -Piperidinomethyl- Δ^{ϵ} -hexen- β -one- γ -carboxylic acid, ethyl ester (Mannich and Gollasch), A., 572.

 β -Piperidinomethylpropan- β -ol, and its salts (KRASSUSKY, STEPANOV, KOSSENKO, and KUSSNER), A., 546.

5-Piperidino-2-nitrodiphenyl ether (LE Fèvre, Saunders, and TURNER), A., 661.

4-Piperidinophenylarsinic acid, 3-amino-, 3-nitro-, and 3-nitroamino-, and their salts and derivatives (KINO), A., 684. β -Piperidino- β -phenylethane, α -nitro- (WORRALL), A., 761.

a-Piperidino-y-tetrahydroisoquinolyl-n-propane, and its salts (v. BRAUN and GOLL), A., 366.

Piperidylacetic acids, 4-hydroxy-, and their ethyl esters, salts and derivatives of (MILLS, PARKIN, and WARD), A., 1199. Piperidyldithiocarbamic acids (ORTHNER), A., 975.

Piperil β -p-tolylosazone (Minunni and D'Urso), A., 1073. Piperonal, preparation of, from isosafrole (HIRAO), A., 57.

colour reaction of, with alkaloids (VAN ITALLIE and STEEN-HAUER), A., 983.

p-tolylhydrazone (Minunni and D'Urso), A., 1073. o-Piperonal, and its derivatives (PERKIN and TRIKOJUS), A., 56. Piperonaloxime, and chloro-, and ω-chloro-o-nitro-, hydrochloride and derivatives of (RHEINBOLDT, DEWALD, JANSEN, and SCHMITZ-DUMONT), A., 245.

1-(a-Piperonylallyl)hydromethylhydrastinine, 6-nitro-, and its salts (Oberlin), A., 681.

β-Piperonylethylamine, 6-bromo-, and its salts and benzoyl derivative (Stevens), A., 266.

o-Piperonylic acid, and its derivatives (PERKIN and TRIKOJUS),

Piperonylideneamylamine (SKITA and WULFF), A., 766.

Piperonylidenemethyl ethyl ketone, and its phenylhydrazone (O'Donoohue, Ryan, and Keane), A., 462.

Piperonylidenemethyl a-piperonylidene-ethyl ketone, and its tetrabromide (O'Donoghue, Ryan, and Keane), A., 462.

9-Piperonylidene-2-nitrofluorene (Loevenich and Loeser), A.,

Piperonylmethylamine salts (MALAN and ROBINSON), A., 1199. Piperonylmethyl- β -piperonylethylamine, and its hydrochloride and derivatives (Malan and Robinson), A., 1200.

Piperonylmethyltrimethylammonium salts and derivatives (Malan and Robinson), A., 1200.

β-Piperonylpropionic acid, β-amino-, hydrochloride (Rodionov and Malevinskaja), A., 137.

-Piperonylpropylamylamine, salts of (SKITA and WULFF), A., 766. Piperonylacetoacetic acld, methyl ester (Borsche, Rosenthal, and MEYER), A., 664.

Pipettes (MÜLLER), A., 438.

automatic (FRIEDRICHS), A., 1048. micro- (WOLFF), A., 284.

Pistacia mutica, composition of essential oil of (DEMJANOV and NILOV), B., 956.

Pistons, manufacture of, from magnesium and its alloys (MICHEL), (P.), B., 606.

Pisum sativum, non-protein cysteine in (Kozlowski), A., 80. Pitch, softening points of (EADIE), B., 358; (MALLISON), B., 742. evaluation of (TAYLOR), B., 38.

extraction of neutral oils from (WITTEK), (P.), B., 901.

suitability of, for carbon electrodes (Schuchardt), B., 135, Pitchblende. See Uraninite.

Pitcher plants. See Sarraceniaceæ.

Pittosporum undulatum, oil from fruits of (IMPERIAL INSTITUTE), B., 617.

Pituitary extracts, posterior, effect of, on cholesterol in blood (Moehlig and Ainslee), A., 702.

Pituitary gland, diuretic-antidiuretic action of (STEHLE), A., 380. Pituitrin, effect of, on carbohydrate metabolism (HINES, LEESE, and Boyd), A., 795.

y-Pivalyl-α-carbomethoxy-β-phenylbutyrolactones (HILL), A., 360, γ -Pivalyl- α -carboxy- β -phenylbutyrolactone (HILL), A., 360.

β-Pivalyl-α-phenylethylmalonic acid, and its derivatives (HILL), A., 360.

3-Pivalyl-2-phenylcyclopropanedicarboxylic acid, methyl ester (HILL), A., 360.

Placenta, alcohol content of (McNally, Embree, and Rust), A.,

manufacture of physiologically-active substances from (Soc. CHEM. IND. IN BASLE), (P.), B., 734*.

human, sexual hormone of (GLIMM and WALDEHN), A., 78. Plankton, influence of, on properties and phosphate content of

sea water (GILL; MARSHALL and ORR), A., 747. Plants, chemistry of (Klapholz and Zellner), A., 283; (Fever-

TAG and ZELLNER), A., 386; (ZELLNER), A., 387, 597. cell membrane of (SCHMIDT, MEINEL, and ZINTL), A., 383. constancy of composition of (Ivanov), A., 383.

chemical composition of, during photoperiodic changes (NIGHT-INGALE), A., 1225.

electrical potential in (Scurti and Cortese), A., 1224. effect of Turkestan climate on chemical processes of (IVANOV),

oxidations in (v. Szent-Györgyi; Platt and Wormall), A., 384.

growth of, in acid soils (HAASTERT), B., 825. in relation to reaction of nutrient solutions (Loo), B., 950.

in relation to soil reaction (v. Kreybig), B., 310. stimulation of (GÜNTHER and SEIDEL), B., 22; (Zellweger), (P.), B., 422; (ABERSON), B., 973.

with carbon dioxide (REINAU), (P.), B., 121. by potassium iodide (LOEW), B., 54.

chemical stimulants for (ZLATAROFF), A., 385; (DENNY), B., 762; (HASELHOFF and ELBERT), B., 791; (I. G. FARBEN-IND.), (P.), B., 919.

Plants, growth of, role of boron in (BRENCHLEY and WARINGTON), A., 385.

effect of hydrogen-ion concentration on (Powers), B., 663. influence of manures and organic residues on (NEWTON and Danilov), B., 759.

relation of soil to cell sap of (McCool), A., 596.

absorption of soil nutrients and their mobility in (RIPPEL), A.,

absorption of nutrients from finely-ground basalt by (SACHSE), B., 759.

assimilation of carbon by (Bose), A., 283. fermentation catalysts in (Boas and Diener), A., 284. colloids of (Samec), A., 412, 955; (Samec, Guzelj, Kavčič, and KLING), A., 908.

enzymes of (Blacoveschenski and Sossiedov), A., 1111. activation of, in relation to nutrition (Doby and Hibbard),

ion activation of (Doby and Hibbard), A., 798.

decomposition of hexoses in (ZALESKI, NOTKINA, and PISAR-SHEVSKI), A., 1226.

hydrogen-ion concentration in tissues of (SMALL; REA and SMALL; DOMONTOVICH), A., 1225.

inerustive substances of (SCHMIDT, TREFZ, and SCHNEGG), A., 80.

assimilation of iron by (Sidorin), A., 79. distribution of mineral matter in (Copisarow), A., 690.

deficiencies of nitrogen metabolism in (Burrell), A., 596. perhydridases in (MICHLIN), A., 699.

phosphatides of (GRAFE and OSE), A., 995.

phosphorus compounds in (Koehler), A., 798; (Minkovska), A., 1227; (LINDENBAUM; VORBRODT), A., 1228. porphyratin of (SCHUMM and MERTENS), A., 685.

absorption of potassium salts by roots of (LEMANCZYK), A., 1228. distribution of potassium and sodium in (ANDRE and DE-MOUSSY), A., 798; (BERTRAND and PERIETZEANU), A., 1116.

proteases of (Grassmann and Haag; Grassmann), A., 794. sodium content in (BERTRAND and PERIETZEANU), A., 488.

manufacture of foods for (Blackwell), (P.), B., 88. disinfectant for (Lieske, Schulemann, Bonrath, and Win-THROP CHEMICAL Co.), (P.), B., 887.

preservation of (Hochstetter and Schmeidel), (P.), B., 30, 718*.

chlorosis in, in relation to ionic equilibria (MAIWALD), B., 565. adherent dusting powder for (LIESKE, THAUSS, BONRATH, and

WINTHROP CHEMICAL Co.), (P.), B., 311. Canadian, distribution of glucosides in (McCullagh), A., 599. essential oils of (Nilov and Williams), B., 956.

edible, iodine content of (SCHARRER and SCHWAIBOLD), A., 798. fleshy-leaved, liberation of oxygen from (MAYER), A., 905. flowering, lactic acid in (VAN KAMPEN), A., 995.

green, rôle of iron in assimilation by (Noack), A., 595.

forage, proteins of (DAVIES), B., 232.

higher, carotinoid pigments of (KYLIN), A., 669. horticultural, effect of method of sampling on chemical analyses of (TUFTS), B., 951.

Indian forest, oils and fats from seeds of (Bhattacharya and AYYAR; GHANEKAR and AYYAR), B., 706.

Japanese (Komatsu and Sasaoka), A., 599.

seedling, utilisation of phosphoric acid and potassium by (GERICKE), B., 120.

determination of the materials of (WAKSMAN and TENNEY), B.,

determination of nitrogen in (RANKER), B., 536.

Plant diseases, combating of (CHEM. FABR. VORM. SCHERING), (P.),

Plant juices, buffering capacity in (LEUTHARDT), A., 937.

correlation of mineral nutrients in, with addition of fertilisers GILBERT and HARDIN), B., 825.

Plant materials, treatment of, to remove incrusting materials from the fibre (FISH), (P.), B., 745.

digestion of, with nitric acid (Krais, Biltz, and Renner), B., 744. determination of nitrates in (PYNE), B., 729.

Plant pests. See under Pests.

Plant products, determination of phosphoric acid in, iodimetrically (FRODL), B., 22.

Plant roots, oxygen requirements of (Kudryasheva), A., 283. Plant sprays (I. G. Farbenind.), (P.), B., 311, 344; (Farbenium) FABR. VORM. BAYER & Co.), (P.), B., 422. preparation of (KREIDL), (P.), B., 199.

Plant tissues, green, vitamins in (QUINN, BURTIS, and MILNER), A., 595.

Plasma, concentration of calcium in (WARBURG), A., 67. human, cholesterol content of (GARDNER and GAINSBOROUGH),

A., 270, 271.

Plasmal, determination of, in blood sorum (FEULGEN and IMHÄUSER), A., 369.

Plasmalogen (IMHÄUSER), A., 894.

in body-fluids, and its detection (STEPP, FEULGEN, and VOIT), A., 370.

Plasmolysis and hydrogen-ion concentration (PRAT), A., 20.

Plastein, nutritive value of (BEARD), A., 275.

Plaster, manufacture of (LAMBERT FRÈRES & CIE.; WHITTLE), (P.), B., 110.

apparatus for (TUTTLE and BLUE DIAMOND MATERIALS Co.), (P.), B., 142.

colouring of (DE Ros and BARTON), (P.), B., 484. painting of (GARDNER), B., 451.

tempering of (Chassevent), (P.), B., 524.

manufacture of material for (GERLACH), (P.), B., 603. compositions used as (SARGINT and CROWE), (P.), B., 816.

for walls (HEYL and KUNZE), (P.), B., 45. analysis and use of (Chassevent), B., 722.

apparatus for thermal analysis of (Jolibois and Chassevent), B., 221.

Plaster of Paris (Chassevent), B., 109.

setting of (Budnikov), A., 731.

economics of boiler and rotary furnaces process for burning (SÄGEBARTH), B., 815. use of, as impression material in dentistry (Sodeau and Gibson).

B., 878.

re-use of moulds of (FARNSWORTH), B., 524.

Plastics, manufacture of (LILIENFELD), (P.), B., 519; (SLOSSER and Pompeian Flooring Co.; Haggerty), (P.), B., 724.

containing rubber, preparation of (McGavack and Revere Rubber Co.), (P.), B., 885.

stabilisation of (BURKE and DU PONT DE NEMOURS & Co.), (P.), B., 473.

Plastic masses, non-inflammable (PATHÉ CINÉMA), (P.), B., 406. Plastic materials (Kemp and Western Electric Co.), (P.), B., 790. preparation of (MELAMID), (P.), B., 495.

capable of hardening (Schoenhoefer), (P.), B., 816.

artificial and natural, influence of plasticising on properties of (MANFRED and OBRIST), A., 514; B., 838.

Platinum in Norwegian rocks and minerals (LUNDE), A., 439. absorption spectrum of vapour of (McLennan, Cohen, and Liggert), A., 396.

photo-electric properties of (BENNEWITZ), A., 913.

influence of gas content on velocity distribution of photoelectrons from (KLUGE), A., 287.

influence of pressure on electrical conductivity of (MICHELS and GEELS), A., 99.

Matthiessen's rule for (Geiss and van Liempt), A., 401.

valency of, in respect to mercaptans (Rây, Bose-Rây, and GUHA), A., 444.

rate of evaporation and vapour pressure of (Jones, Langmuir, and MACKAY), A., 927.

recrystallisation of (FEUSSNER), A., 1016.

adsorption of benzene vapour by (Lenher), A., 198. permeability of, to hydrogen (LOMBARD), A., 727.

rhythmic bands of, in silicic acid gels (DAVIES and SIVERTZ),

catalytic contact mass of (v. ARTNER), (P.), B., 813.

crucibles of illium-alloy, vitreosil, and, for determination of volatile matter in coal (Cooper and Oscoon), B., 130. alloys as substitutes for (LIMBOURG), (P.), B., 527.

ammonia-charged, photo-electric sensitivity of (LEUPOLD), A.,

catalytic, used in preparation of sulphur trioxide, action of

iridium and of rhodium on (Levi and Faldini), B., 651. colloidal, constitution of (Pennycuick), A., 1137. congulation of (PENNYCUICK), A., 824.

gas-free, photo-electric properties of (DuBridge), A., 391

incandescent, thermionic emission of, in iodine vapour (JEZ), A., 805.

spongy, hydrolytic adsorption by (FRUMKIN and DONDE), A., 1021.

Platinum alloys for pen-nibs (HEREUS G.M.B.H. and HAAGN), (P.), B., 633.

with copper (Brainin and Baker & Co.), B., 705. crystal structure and conductivity of (JOHANSSON and LINDE),

A., 400.

Platinum alloys with silver, structure and properties of (Kurnakov and Nemilov), A., 1133.

Platinum bases (platinumammines), and their salts (TSCHUGAEV;

TSCHERNIAEV), A., 1158.

complex sulpho-acids of (TSCHUGAEV and KRASIKOV), A., 1158. Platinum salts, complex isomeric, molecular weights of (Grün-BERG), A., 34.

Platinum halides, molecular volumes of (Klement), A., 920. hydride hydrosols, and their dehydrogenation by mercury (PAAL and AUERSWALD), A., 824.

oxide, catalytic hydrogenation with (DIAZ AGUIRRECHE), A., 1188.

Platinic chloride, equilibrium of sodium chloride, water, and (Henke), A., 731.

Platinous salts, stereochemistry of (REIHLEN and NESTLE), A., 189; (Grünberg), A., 922.

Platini-platino chloride electrodes. See under Electrodes. Platinum organic compounds with triaminopropane (MANN), A.,

Chloroplatinic acid, double salt of cocaine and (PACE), A., 265.

Platinum detection, determination, and separation :detection of (DURDIK), B., 193.

determination of (Ivanov), A., 1162.

determination of small quantities of, in ores and minerals (LUNDE), B., 302.

determination of iridium in (Chlopin), A., 1162.

determination of palladium in (Zvjaginstsev), A., 1162.

separation of iridium and (KARPOV), A., 1162.

Platinum black, hydrolytic adsorption on (FRUMKIN and OBRUTscheva), A., 106.

Platinum electrodes. See under Electrodes.

Platinum metals. See under Metals.

Pneumococcus, soluble specific substance of (Heidelberger and GOEBEL), A., 77.

aldobionic acid and its derivatives, from specific polysaccharide of (Heidelberger and Goebel), A., 1114.

antigen and antiserum for (LARSON), (P.), B., 317. formation of hydrogen peroxide by (PLATT), A., 280.

Poa pratensis (Kentucky blue grass), cobalt, copper, manganese, nickel, and zinc in (McHARGUE), B., 394.

Podophyllum, assay of (WARREN), B., 713.

Podophyllum peltatum, constituents of rhizomes and roots of (KUESTER), B., 266.

Poisons, destruction of organic matter in analysis of (Mancini), A., 173.

heart, analysis of (Kisch), A., 900.

snake (WADA), A., 586.

relation between bile acids, cholesterol, and (YONEMURA and Fujihara), A., 171.

effect of, on blood and on formation of lactic acid (Houssay and Mazzocco), A., 73; (Houssay, Marenzi, and Mazzocco), A., 74.

Poisoning, antimony and arsenic, nitrogenous metabolism in (PRIBYL), A., 1110.

benzol, as an industrial hazard (Greenburg), B., 837.

carbon monoxide, in absence of hæmoglobin (HALDANE), A., 375; (Frankland), A., 484.

cyanamide (GLAUBACH), А., 73.

ethyl alcohol (E. and L. Keeser), A., 276.

lead (DANCKWORTT and UDE), A., 277.

concentration of lead in the body in (Vallée), A., 992. effect of parathyroid hormone on excretion of lead and calcium in (HUNTER and AUB), A., 702.

mercury (Hesse), A., 73. phosphorus, effect of, on blood sugar (Ivančevic), A., 590.

potassium cyanide (Buchanan), A., 276.

strychnine, blood-gases in (LUDWIG and EBSTER), A., 1220. Poisson's theorem (KLÜSENER), A., 819.

Polarimeters (LEITZ), (P.), B., 690.

Polarimetry, thermostat and observation tubes for (PATTERSON), A., 849.

photo electric (v. Halban), A., 92.

Polarisation and isomerism in organic compounds (ERRERA), A., 94.

electrolytic (Glasstone), A., 24, 422.

Polarity and optical activity of substituent groups (RULE and MITCHELL), A., 132; (RULE), A., 233.

Polishes, manufacture of (Thompson and McGivern), (P.), B., 118.

Polishing of surfaces (Preston), A., 100.

Pollock, blood-sugar of, during asphyxia (Menten), A., 476. Pollucite, extraction of easium from (Kastler), B., 439.

Polonium, emission of a-particles by (Kutzner), A., 1003 atomic disintegration by a-particles from (Bothe and Franz),

A., 710. half-value period of (DA SILVA), A., 182.

vaporisation of (BONET-MAURY), A., 606, 807.

Polyamyloses, fermentative fission of (PRINGSHEIM, LEIBOWITZ, and Mechlinski), A., 136.

disaggregation of (PRINGSHEIM and MEYERSOHN), A., 860. Polyazo-dyes (Hitch, Smith, and Du Pont de Nemours & Co.), (P.), B., 101; (FLETT and NATIONAL ANILINE & CHEM. Co.), (P.), B., 292.

Polycyclic compounds, chemistry of, in relation to their homocyclic unsaturated isomerides (Ingold and Seeley), A., 877.

Polygala, American, free methyl salicylate in (WHERRY), A., 599. Polygala vulgaris, polygalitin in stems of (Picard), A., 995.

Polymerisation (DREW and HAWORTH), A., 544; (WATERMAN and PERQUIN; WATERMAN and JAMIN), B., 131. and Röntgen-ray spectra (KATZ), A., 411.

of gases at the boiling point (KIREJEV), A., 101.

Polymethylenedicarboxylic acids, methylated, and their derivatives (CHUIT, BOELSING, and MALET), A., 446.

Polyneuritis of pigeons, effect of 2:6-dihydroxyquinoline from oryzanin on (Sahashi), A., 487.

Polyoxymethylenes, comparison of cellulose with (STAUDINGER, JOHNER, SIGNER, MIE, and HENGSTENBERG), A., 648.

Polypeptidase, yeast (Grassmann), A., 794.

Polypeptidases, specificity of (Abderhalden and Schwab),

Polypeptides, structure of (ABDERHALDEN and HAAS), A., 451. absorption spectra of (ABDERHALDEN and HAAS), A., 6.

hydrolysis of (Abderhalden and Mahn), A., 1099. from degradation of ovovitelline (S. and T. Posternak),

A., 582 copper salts of (Abderhalden and Schnitzler), A., 451.

determination of, in protein digests (MARTENS), A., 687. Polysaccharides (KARRER and SCHUBERT), B., 648.

synthesis and degradation of (Pringsheim), A., 136. hydrolysis of, by muscle extracts (Meyerhof), A., 75. reactions of (HIBBERT and HASSAN), B., 904.

Polythionates. See under Sulphur.

Polyvinyl alcohol (HERRMANN and HAEHNEL), A., 852. and its derivatives (STAUDINGER, FREY, and STARCK), A., 1052.

Pomace extract (Monti), (P.), B., 27.

Pomegranates, citric acid in (Nelson), A., 799.

Poplar, black. See Populus nigra.

Populus nigra, translocation of potassium before and during death of leaves of (Sabalitschka and Wiese) A., 55

Porcelain, constitution of (SCHWARZ and MERCK), B., 43. manufacture of (JEFFERY, MONTGOMERY, and CHAMPION

Porcelain Co.; Riddle and Champion Porcelain Co.), (P.), B., 602.

crystalline phases of (STROUTINSKY), B., 557.

porosity in firing and glazing of (Bremond), B., 141. hard, moulding of (McIntosh), (P.), В., 443.

wet-process electrical, modulus of rupture of (NAVIAS), B., 750. determination of mullite in (McVAY), B., 220.

Porcelain bodies, effect of calcined cyanite in (McDowell and Vachuska), B., 220.

effect of various forms of silica on (HIRSCH), B., 557.

Porosimeters, gas-expansion, for ceramic product (MACGEE), B., 750.

Porosity, determination of (NAVE), B., 383.

Porphins, synthesis of (FISCHER, HALBIG, and WALACH), A., 469.

Porphyrins (Küster and Schlaver), A., 980. formation of (Küster), A., 679. syntheses of (Fisoher, Halbio, and Walach), A., 469;

(FISCHER and HEISEL), A., 1088; (KÜSTER and KOPPEN-HÖFER), A., 1094; (FISCHER and TRIEBS), A., 1206.

ultra-violet absorption spectra of (HAUSMANN and KRUMPEL), A., 893.

from hæmatin (Küster), A., 784.

relation of, to hæmin (HAUROWITZ), A., 1100.

natural (FISCHER and LINDNER), A., 262.

detection and differentiation of (Schumm), A., 371. detection of (MERTENS), A., 785.

Porphyroxine, constitution of, and its salts and derivatives (RAKSHIT), A., 64.

Potash. See Potassium hydroxide.

Potash deposits, Texas, economic aspects of (Turrentine), B., 250.

Potash industry, specific heats of solutions obtained in (KÜPPER). B., 478.

Potassium, isolation of (Matignon and Marchal), A., 430.

atomic weight of (Hönigschmid and Goubeau; Zintl and GOUBEAU), A., 806.

preparation of (DE BOER, CLAUSING, and ZECHER), A., 328. physical and chemical constants of (Edmondson and Egerton), A., 103.

forbidden line in spectrum of (RASETTI), A., 1118.

intensity in spectrum of (FILIPPOV), A., 490.

ratio of numbers of resonating electrons for doublets in spectrum of (Prokofiev), A., 601.

absorption spectrum of (Frederickson and Watson), A., 1122. continuous spectrum of (Balasse), A., 490.

flash are spectrum of (NEWMAN), A., 2.

series spectrum of (Prokofiev and Gamov), A., 998.

molecular spectra of, and its mixtures with sodium (Princi-SHEIM and ROSEN), A., 809.

radioactivity of, and its geological significance (Holmes and LAWSON), A., 86.

in electric discharge tubes (N.V. Philips' Gloeilampenfabr.), (P.), B., 226.

luminescence of, in the electrodeless discharge (Balasse), A., 7.

photoelectric emission and optical absorptive power of (FLEISCHER), A., 180, 287.

electrolytic conduction of, through glass (Zworykin), A., 1032. molecules, heat of formation of (CARRELLI and PRINGSHEIM), A., 1018.

entropy and chemical constants of (Rodebush), A., 718.

fused, diffraction of X-rays in (Keesom), A., 923.

transference number of, in mixed chloride solutions (Braley and RIPPIE), A., 733.

reaction of, with carbon (FREDENHAGEN and CADENBACH), A., 218.

vapour, reaction of mercuric chloride vapour with (Kondra-TÉEV), A., 1124.

reciprocal displacement of sodium and, from their chlorides (Hackspill and Rinck), A., 939.

Potassium alloys, with sodium, photo-electric emission from (Ives and Stilwell), A., 287.

emission of electrons from reaction of carbonyl chloride with (Richardson and Brotherton), A., 713.

Potassium compounds, alkaline, manufacture of (SIEGEL), (P.), B., 841.

biological importance of (HAGEMANN and OHL), A., 986. in soils, influence of sulphur and gypsum on (Shedd), B., 22.

Potassium salts, production of, from sea water (Niccoll), (P.), B., 75; B., 249.

viscosity of saturated solutions of (HRYNAKOWSKI), A., 619. importance of, in soils (Nolte), B., 498.

influence of, on nitrogen exerction (PINCUSSEN and COELHO), A., 276.

Potassium alum. Sec Potassium aluminium sulphate.

bromide, decomposition potential of, in methyl alcohol solution (Biswas and Bose), A., 422.

complex of mercuric chloride and (BOURION and ROUYER), A., 841.

bromide and iodide, activity coefficients of (HARNED and Douglas), A., 112.

carbonate, equilibrium of sodium carbonate, water, and (HILL and MILLER), A., 418.

normal and acid carbonates, equilibrium of water and (A. E. and D. G. HILL), A., 518.

chlorate, reaction of iodine with (PUTOCHIN), A., 529.

chlorate and chloride, equilibrium of, with sodium chlorate and chloride (DI CAPUA and SCALETTI), A., 731.

chloride, manufacture of, from carnallite (Stollberg), (P.), B., 298.

ultra-violet absorption spectra of natural and artificial crystals of (Hilsch), A., 917.

electrolysis of, by alternating currents (Allmand and Cocks), A., 1152. temperature variation of dielectric constant of (Voict),

A., 919. heat of dissolution of, in leach liquors (Küpper), B., 478.

freezing point of concentrated solutions of (Jones and Bury), A., 619.

Potassium chloride, evaporation of mother liquors from (HOLLE), B., 477.

cooler for liquors of (RITTER; JUNG; SCHADE and WINTER), B., 476.

filtration of solutions of (RINCK), A., 478.

boiling point of aqueous solutions of, and their equilibria with resorcinol (Bourson and Rouyer), A., 515.

vapour pressure and heat of dilution of solutions of (HARRISON and Perman), A., 207.

equilibria of, with water and aluminium and hydrogen chlorides (Malquori), A., 628.

equilibrium of cobalt chloride, water, and (MAZZETTI), A., 22. equilibrium of lead chloride, water, and (ALLMAND and Burrage), A., 1030.

equilibria of potassium laurate, water, and (McBain and Field), B., 18.

complex of cadmium chloride and (Bourson and Rouxer), A., 841.

chloride and nitrate, equilibria of, with magnesium and sodium chlorides and nitrates (FROWEIN and V. MÜHLENDAHL),

cupric chloride dihydrate, crystal structure of (HENDRICKS and Dickinson), A., 1013.

dichromate, catalytic decomposition of hydrogen peroxide by (Robertson), A., 632; (v. Euler and Josephson), A., 837. perferrate (Goralevitch), A., 433.

lluoride and its dihydrate, heats of solution and dilution of Lange and Eichler), A., 1143.

halides, solubility and density of saturated solutions of (Scott and Frazier), A., 405.

hydroxide (caustic potash) from greensand (Whittaker and Fox), B., 408.

iodate, preparation of (Putochin), A., 529.

reaction of phosphorus with (Buehrer and Schupp), A., 222. hydrogen iodate as standard in volumetric analysis (Kolthoff and van Berk), A., 35.

iodide, decomposition potential of, in methyl alcohol solution (Biswas and Bose), A., 422

influence of iodine on conductivity of, in alcoholic and acetone

solutions (Thönnessen), A., 420. dispergation of cellulose in solutions of (v. Weimarn and

Juna), A., 824. permanganate, absorption spectra of, in various solvents

(v. Kurelec), A., 306. paramagnetism of (Collet), A., 11.

mixed crystals of barium sulphate and (GEILMANN and Wünnenberg), A., 120.

velocities of reaction of, with organic acids (DEY and DHAR), A., 116.

as standard in acidimetry (Heczko), A., 848.

nitrate (saltpetre), manufacture of (Schaarschmidt), B., 42; (LAMBERT), (P.), B., 408; (PREUSSISCHE BERGWERKS- & HÜTTEN-A.-G.), (P.), B., 777.

from crude potassium salts (WOLFF & Co. and FROWEIN), (P.), B., 298.

absorption spectrum of (Scheibe), A., 6.

ultra-violet absorption spectrum of (Siegler-Soru), A., 6. photolysis of (VILLARS), A., 323.

vapour pressure of solutions of (Frazer, Lovelace, and TAYLOR), A., 207.

equilibrium of aluminium nitrate, water, and (MALQUORI), A., 518.

equilibrium of nitric acid, water, and (MALQUORI), A., 628. manurial experiments with (FROWEIN), B., 637.

determination of perchlorates in, colorimetrically (Fedorova),

B., 600. nitrate and dihydrogen phosphate, recovery of, from mixed

solutions (I. G. FARBENIND.), (P.), B., 481. phosphates, dissociation pressures of (Kiehl and Wallace), A., 312.

equilibrium of, with ammonia and water (JÄNECKE), A., 731. dihydrogen phosphate, melting point of (MERZ), A., 717.

erystal structure of (Hendricks), A., 1013. sulphate, preparation of (Kölichen), B., 477.

Hargreaves' process for (Hepke), B., 478. equilibrium of manganese sulphate, water, and (Caven and Johnston), A., 1142.

aluminium sulphate, purification of, from iron salts (Bassett and Electro Co.), (P.), B., 298.

bismuth sulphates (CAGLIOTI and STOLFI), A., 951.

Potassium chromium sulphate, density of green solutions of (RAKUZIN and ROSENFELD), A., 932.

magnesium sulphate, production of (KÖLICHEN and PRZIBYLLA), B., 478.

persulphate, photochemical decomposition of (Morgan and Crist), A., 216, 323, 428.

velocity of decomposition of, in aqueous solution (Kailan and OLBRICH), A., 213.

Potassium organic compounds with hydroxyglyoximes (Ponzio and DE PAOLINI; PONZIO and SISMONDI), A., 135. Potassium isoeugenyl sulphate, electrochemical oxidation of

(FIGHTER and RINDERSPACHER), A., 353.

Potassium determination :-

determination of, electrometrically (Влиси), А., 331.

determination of, volumetrically (JANDER and PFUNDT), A., 1046.

determination of, in presence of iodide (HAWKINS and PARTING-TON), A., 745.

determination of, by the tartrate method (Borsche), B., 478. determination of, in mixtures of salts, by the perchlorate method (Leimbach), B., 874.

determination of, colorimetrically, in blood (Yoshimatsu), A.,

determination of, in foods (HUSBAND and GODDEN), B., 397. determination of, colorimetrically, in aqueous extracts of soils (NEMEC), B., 918.

determination of sodium and (MEYER), A., 1046; (STODDARD), A., 1228.

Potassium ions, hydratation of (Baborovský and Velíšek), A., 734.

Potatoes, growth and constituents of (Shutt), A., 597.

maturity in (APPLEMAN and MILLER), B., 22.

loss of mineral matter from, in cooking (GRIEBEL and MIER-MEISTER), B., 236.

loss of nutrients in mechanical removal of water from (PAROW, STIRNUS, and EKHARD), B., 857.

respiration in varieties of (Schulz), A., 385.

tuberisation of (Rosa), A., 284.

tubers of, dormant and non-dormant, metabolism of nitrogen compounds in (NEWTON), B., 973.

effect of potassium ions on (v. Brehmer), B., 587.

effect of potassium and chlorine on growth and yield of (Maiwald), B., 565.

nutritive value of proteins of (HARTWELL), A., 480. starch production in leaves of (MASKELL), A., 704.

sucrose formation in, when drying (DE WOLFF), A., SO; B., 122.

Colorado, composition of (Goldthwaite), B., 314. determination of starch in (RANKOFF), B., 590.

Potato flour, phosphoric acid in (TRYLLER), B., 90.

Potato mashes, nitrogenous nutrients of yeast in the fermentation of (Dehnicke and Kill), B., 666.

Potato starch. See under Starch.

Potato waste, increasing protein content of (EKHARD), B., 397. Potato water, extraction of albumin and nutritive salts from (Vogel), (P.), B., 345.

Potential, relation between temperature and (Denina), A., 316. absolute value of (ANDAUER), A., 316.

at absolute zero, determination of (Bennewitz and Deli-JANNIS), A., 316.

gradient of, in the positive column (GÜNTHER-SCHULZE), A., 709. of ions in salt solutions (Butler), A., 316.

at liquid surfaces (BÜHL), A., 1144.

difference of, at boundary of two liquids (Vosnessenski), A., 420; (Vosnessenski and Astachov), A., 1033.

at phase boundaries (BAUR and ALLEMANN), A., 23.

change of, during precipitation reactions (LANGE and SCHWARTZ), A., 1029.

of cells with transference (Taylor), A., 1144.

of non-aqueous solutions, Nernst formula applied to (Brob-SKY), A., 735.

with semi-permeable membranes (Kameyama), A., 316.

adsorption and diffusion (BLUH), A., 316. chemical, mass unit of (BANCROFT), A., 206.

contact, temperature coefficient of (McHenry), A., 421.

between two solutions (DENINA), A., 114. of fused salts (Lorenz), A., 1144.

diffusion, effect of intermediate solutions on (DRUCKER), A.,

flow (Lacus and Kronman), A., 208.

Potential, oxidation reduction, apparatus for determination of (ORT), A., 24.

mechanism of (DIXON), A., 209.

in cells (RAPKINE and WURMSER), A., 1218.

reduction-oxidation (HIRSCH and RÜTER), A., 23; (KOLTHOFF), A., 127.

sparking, theory of (TAYLOR), A., 1001.

Potter's slip, machine for sifting (BEARDMORE and BOULTON, Ltd.), (P.), B., 655.

Pottery, kilns for (MORGAN CRUCIBLE Co. and Speirs), (P.), B., 76. Poultry food, supplemental, materials for (LAPP and CONCENTRATE PRODUCTS Co.), (P.), B., 923.

Powders, extraction apparatus for (Palkin and Warkins), B., 399. grading of (Andrews), (P.), B., 159. particle size and volume of (WOLFF), B., 543.

weight of, in air and in vacua (RUER and KUSCHMANN), A., 1134.

conduction of heat through (ABERDEEN and LABY), B., 31. pneumatic conveyance of (YATES and PNEUMATIC CONVEYANCE & Extraction), (P.), B., 177.

influence of water on solidity of, after heating (GARRE), A., 1135.

colloidal propulsive, hydration of, during drying (Vieille), B., 157.

loss of volatile matters from (VIEILLE), B., 158.

explosive, manufacture of (O'NEILL and WESTERN CARTRIDGE Co.), (P.), B., 717.

finely-divided, removal of gritty matter from (Gallie, Porritt, and Research Assoc. of Brit. Rubber & Tyre Mfrs.), (P.), B., 32.

very fine, process for obtaining (Podszus), (P.), B., 320*. propellant (O'NEILL and WESTERN CARTRIDGE Co.), (P.), B., 204, 717.

for shot-guns (OLIN, O'NEILL, and WESTERN CARTRIDGE Co.), (P.), B., 717.

smokeless, stability of (Metz), B., 29; (Thomas), B., 830. determination of moisture in (Benesch), B., 716.

Praseodymium, absorption spectrum of vapour of (McLennan, Cohen, and Liggett), A., 396.

are and spark spectra of (McLennan and Liggett), A., 390. Precipitates, adsorption of sols and ions by (Chatterii and DHAR), A., 106.

removal of, from settling vessels, without running off the solution (STEEN), B., 63.

with large surfaces, desiccation and rehydration of (HAHN and Biltz), A., 622.

llocculation of, in analysis (CLAYTON), A., 329.

centrifuged, apparatus for removal of liquid from (Krane), A.,

polar, adsorption by (MUKHERJEE and KUNDU), A., 409. slight, detection of (DE JONG), A., 124.

Precipitation, laws of (v. Weimarn), A., 1031. induced (Böttger and Druschke), A., 536. periodic, theory of (DHAR and CHATTERJI), A., 200.

rhythmic (FRICKE and SUWELACK), A., 310.

Precipitation apparatus (Hechenbleikner), (P.), B., 47. Pregnancy, nitrogen secretion during (STEFANCSIK), A., 1107. toxemia in (CRUICKSHANK), A., 1217.

Preservatives of vegetable matters, production of, of unlimited durability (Faitelowitz), (P.), B., 923*.

Preserves, manufacture of (Douglas Pectin Corp. and Loeson), (P.), B., 890.

Pressure, recording of small differences of (SMITH), A., 102. high, packings for apparatus working at (I. G. FARBENIND.), (P.),

liquid, apparatus for experiments under (Basset), A., 849. internal (RICHARDS), A., 103.

and theorem of corresponding states (Schuster), A., 818. Pressure gauges, fixed point for calibration of (BRIDGEMAN), A., 615.

Pressure vessels, liquid level in (CAMPBELL), (P.), B., 66.

Primeverose, synthesis of (HELFERICH and RAUCH), A., 859. Priming material for coating porous surfaces (FRENKEL and

Brust), (P.), B., 333. Primula, colouring matters from (KARRER and WIDMER), A., 1197.

Printing with basic dyes (SAZANOFF), (P.), B., 186. on acetate silk (I. G. FARBENIND.), (P.), B., 905.

applications of vat dyes in (SMITH), B., 362. with vat dyes under indanthrene dyes (HALLER and MICHEL),

B., 475.

Printing of animal and vegetable materials (CHEM. FABR. MILCH and LINDNER), (P.), B., 650.

of cellulose acetate (British Celanese and Ellis), (P.), B., 216; (British Celanese, Ellis, and Goldthorpe), (P.), B., 475; (Clavel), (P.), B., 553.

of cellulose acetate silk (Akt.-Ges. für Anilin-Fabr.), (P.), B.,

of cellulose esters (I. G. FARBENIND.), (P.), B., 277, 363, 407. of products of cellulose esters and ethers (Dreyfus; British CELANESE and ELLIS), (P.), B., 650.

on cellulose fabrics (American Cellulose & Chemical Manuf. Co.), (P.), B., 185.

of patterns on cloth (ADLER), (P.), B., 407.

with ice colours (I. G. FARBENIND.), (P.), B., 812. with phenylamine black (ARIS), (P.), B., 965*.

lustre and matt effects on fabrics containing viscose silk (Burgess, Ledward & Co., Scholefield, and Denver), (P.), B., 72.

decorative, of textile fabrics (Calico Printers' Assoc. and SWALLOW), (P.), B., 71.

fast, on textiles (f. G. FARBENIND.), (P.), B., 216.

Printing pastes (Burgess, Ledward & Co., Scholefield, and Denver), (P.), B., 72; (Müller and Geigy A.-G.), (P.), B., 186*.

containing alizarin, brightening of effects of (Scheurer; BINDER), B., 474.

Procaine. See Novocaine.

Producer gas. See under Gas.

Propadiene, preparation of (TAPLEY and GIESY), A., 130.

Propaldehyde, decomposition of (HINSHELWOOD and THOMPSON), A., 26; (Hinshelwood and Askey), A., 1036.

Propaldehyde, a-bromo- (KIRRMANN), A., 340.

β-chloro-, potassium and sodium hydrogen sulphite compounds of (CRAWFORD and KENYON), A., 343.

y-chloro-, dimethyl acetal (VOET), A., 1172. β-hydroxy- (Stepanov and Schtschukina), A., 647.

Propaldehydeacetal, aa-dibromo- (Dworzak and Pfifferling), A., 1055.

Propane, thermal properties of (Dana), A., 1131.

Propane, triamino-, complex compound of platinic chloride and, and its salts (Mann), A., 754.

tribromo-, action of magnesium on (KRESTINSKI), A., 441.

aβy-tribromo- (TAPLEY and GIESY), A., 130.

aaaββ-pentabromo-, and aaββ-tetrachloro-a-bromo- (Loevenich, Losen, and Dierious), A., 538.

aa-chloronitroso- (RHEINBOLDT and DEWALD), A., 229. BB-chloronitroso- (RHEINBOLDT and DEWALD), A., 852. cycloPropane, derivatives of (BRUYLANTS), A., 653, 877.

cycloPropane, cyano-, polymeride of, and its derivatives (BRUY-LANTS), A., 877.

cycloPropane ring, splitting of, by bromine (NICOLET and SATTLER), A., 1068.

cycloPropane-1-carboxylic acid, 2-bromo-, and 2-bromo-1-cyano-, ethyl ester (Nicolet and Sattler), A., 1068.

cycloPropane-1:1-dicarboxylic acid, 2-bromo-, ethyl ester (Nicolet and SATTLER), A., 1068.

Propanolsulphonic acid, thio-, gold salt (Lumière and Perrin), A., 233.

Propargyl-y-amylpropargylaniline (v. Braun and Tauber), A., 1179.

Propargylaniline, and its salts and derivatives (v. Braun and TAUBER), A., 1179.

Propargylidenemalonic acid (KALFF), A., 1196.

Propellers, magnesium (MITCHELL), (P.), B., 370.

Propene. See Propylene.

cycloPropenedicarboxylic acids (FEIST and CHEN), A., 150.

O-isoPropenylbenzophenone (BARNETT, COOK, and NIXON), A.,

Propenylcarbamide (Jones and Mason), A., 1186.

Propenylcarbimide (Jones and Mason), A., 1186. Propinene, Aa-bromo- (Loevenich, Losen, and Dierichs), A.,

538. Propionisoamylamide, a-amino-, and its hydrochloride and derivatives, and a-bromo- (v. Braun and Münch), A., 345.

Propionanilide, compound of, with acetanilide (GILBERT and CLARKE), A., 1061.

Propionethylamide, and a-mono-, and aa-di-bromo- (v. Brauk, JOSTES, and HEYMONS), A., 231.

Propionethylanilide, β -chloro- (Mayer, van Zütphen, and Philipps), A., 574.

Propionic acid, triphenylpropargyl ester (Moureu, Dufraisse, and Houghton), A., 355.

determination of, in acetic acid (BAUM), 616.

Propionic acid, aa-dichloro-, and aa-chlorobromo-, and their derivatives (v. Braun, Jostes, and Münch), A., 547.

dithio-, and its ethyl ester (Sakurada), A., 134.

β-thiol, methyl ester, and its metallic derivatives (Drummon) and Gibson), A., 156.

Propionmethylanilide, β -chloro- (Mayer, van Zütphen, and Philipps), A., 574.

Propion-β-phenylethylamide, α-amino-, and its hydrochloride, and a-bromo- (v. Braun and Münch), A., 345.

Propionyl chloride, β-chloro-, derivatives of (MAYER, VAN ZÜT-PHEN, and PHILIPPS), A., 574.

Propionylalanine, bromo, dehydration of (KANN), B., 284.

dl-Propionyl-δ-aminovaleric acid, α-bromo- (Abderhalden and HARTMANN), A., 1113.

Propionylbenzdiethylamides, and their semicarbazones (MAXIM), Λ_{-} , 458.

Propionylformdiethylamide, and its semicarbazone (BARRÉ), A.,

Propionylformic acid, derivatives of (BARRÉ), A., 447.

Propiophenone β-naphthylhydrazone (Korczyński, Brydovna, and Kierzek), A., 256.

Propolis, composition of (JAUBERT), B., 707.

4-isoPropoxy- β -naphthaquinone (Fieser), A., 59.

n-Propoxypropanes, hydroxy- (Cox, Nelson, and Cretcher), A.,

n-Propyl alcohol, conductivity and velocity measurements in (GOLDSCHMIDT and THOMAS), A., 521. specific heat, entropy, and free energy of (PARKS and HUFF-

MAN), A., 12. reaction of phenol with (IPATIEV, ORLOV, and PETROV), A.,

538. isoPropyl alcohol, properties of mixtures of acctone and (PARKS

and CHAFFEE), A., 405. as substitute for ethyl alcohol (SCHUETTE and SMITH), B., 117; (Schuette and Harris), B., 118.

fate of, in the organism (KEMAL), A., 990.

analysis of (Simmons), B., 504.

determination of, and its interchange with acctone in the body (KNIPPING and PONNDORF), A., 70.

determination of, in presence of acctone (Cassan), A., 1100. determination of, in presence of ethyl alcohol (NOETZEL), B., 668.

isoPropyl alcohol, trifluoro- (SWARTS), A., 1055.

isoPropyl carbonate (Kogermann and Kranig), A., 302.

Propyl diacetone ether, and its semicarbazone (HOFFMAN), A., 338.

ether, dihydroxy- (LEVENE and WALTI), A., 1166.

isoPropylacetylenylcarbonol (Krestinski and Solodki), A., 1052. cycloPropyl alkyl ketones (BRUYLANTS), A., 878.

isoPropylallylbarbituric acid, compound of, with antipyrine (HOFFMANN-LA ROCHE & Co.), (P.), B., 829. a-(γ'-Propylamino)-δ-aminobutane hydrobromide-, a-γ'-bromo-

(Dudley, Rosenheim, and Starling), A., 343. 1-n-Propylaminobenzthiazole bromides (HUNTER), A., 263.

a-n-Propylammoisohexoethylamide, and its salts (v. Braun and Münch), A., 345.

2-n-Propylamino-β-naphthathiazole, and its hexabromide (Dyson,

HUNTER, and SOYKA), A., 263. Propylaminophenylarsenoacetic acid, $4-\gamma$ -hydroxy-, hydrochloride

(PALMER and EDEE), A., 580. 4-Propylaminophenyltetra-arsenoacetic acid, y-hydroxy- (Palmer

and Edee), A., 580.

a-n-Propylaminopropion isoamylamide, and its salts (v. Braun and MÜNCH), A., 345.

2-isoPropylaminopyridine chloroiodide hydrochloride (CHEM. FABR. VORM. SCHERING), (P.), B., 572.

n-Propylanhydrotris-o-aminobenzaldehyde (BAMBERGER), A., 361. Propylbenzene, a-bromo- (GRIGNARD and ONO), A., 130.

1-Propylbenziminazolone-5-arsinic acid (I. G. FARBENIND. and FARBW. VORM. MEISTER, LUCIUS, & BRÜNING), (P.), B., 670.

n-Propylcyclobutane (Zelinski and Kasanski), A., 648.

2-n-Propyl-5-n-butylpiperidine (Benary), A., 573. cycloPropyldialkylcarbinols (BRUYLANTS), A., 653.

Propyl-42:6-dihydrobenzoic acid, 2-α-hydroxy-, and its silver salt (Berlingozzi, Mennonna, and Palma), A., 560.

2-isoPropyl-1:4-dihydronaphthalene (Ruzicka and Capato), A.,

n-Propyl-∆2:6-dihydrophthalide (Berlingozzi, Mennonna, and Palma), A., 560.

Propylene, action of hydrogen chloride on (Sutherland and Maass), A., 441.

derivatives, preparation of (Goudet and Schenker), A., 440. Propylene, βy-dibromo- (KIRRMANN), A., 442.

dibromides from (LESPIEAU), A., 337.

a-bromo- $a\beta$ -diiodo-, and $a\beta$ -dichloro-a-bromo- (Loevenich, Losen, and Diericus), A., 538.

α-Propylene glycol, occurrence of (Schutt), B., 891.

 $\alpha\beta$ -Propylene glycol propyl ethers, mutual solubilities of water and (Cox, Nelson, and Cretcher), A., 509.

Propylene glycol ethers, use of, in lacquers (Gardner and van **Неискекоти**), В., 684.

Propylene oxide, polymerisation products of (Levene and Walti), A., 1166.

action of ammonia on (Levene and Walti), A., 343.

Propylene oxides, hydrolysis of (Levene and Walti), A., 644. cycloPropylethylisobutylearbinol (BRUYLANTS), A., 878.

isoPropylethylene, formation of trimethylethylene from (Norris and REUTER), A., 1165.

n- and iso-Propylguanidines, nitro- (DAVIS and LUCE), A., 1059.

δ-isoPropylheptan-δ-ol (STAS), A., 46.

Propylhexahydrobenzoic acid, 2-a-hydroxy-, and its silver salt (Berlingozzi, Mennonna, and Palma), A., 561.

isoPropylcyclohexanecarboxylic acid, salts and lactone of (Wie-LAND, SCHLICHTING, and v. LANGSDORFF), A., 243.

 γ -iso-Propylhexan- γ -ol (STAS), A., 46.

4-isoPropylcyclohexanols, isomerism of, and their salts and derivatives (Callier), A., 761.

cis- and trans-2-isoPropylcyclohexanols, and their salts and phenylurethanes (VAVON and CALLIER), A., 455.

2-isoPropylcyclohexanone, and its derivatives (VAVON and Callier), A., 455.

4-isoPropylcyclohexanone oxime and semicarbazide (CALLIER), A., 762.

β-Propyl-Δβ-hexenoic acid, derivatives of (Kon and May), A., 853. β-Propylhexoic acid (Kon and May), A., 853.

B-4-isoPropylcyclohexylhydroxylamine (Callier), A., 762.

8-isoPropyl-as-homotetrahydroisoquinoline, and its salts and derivatives (v. Braun and Wirz), A., 254.

isoPropylidene ethers, preparation of, by means of acetone and zine chloride (Fischer and Taube), A., 338.

a-Propylidenecyclohexylamine (SKITA and WULFF), A., 559.

3-isoPropylidene-9-methyldecahydronaphthalen-5-one, and derivatives (Ruzicka and Capato), A., 569.

3-isoPropylidene-9-methyl-1:2:3:4:7:8:9:10-octahydronaphthalene (RUZICKA and CAPATO), A., 569. 2-isoPropylidenenaphthalene (Ruzicka and Capato), A., 570.

n- and iso-Propylidenephthalides (Tasman), A., 1186. 2-isoPropylidene-β-thujone, and its semicarbazone (Hugh and

Kon), A., 1195.

2-n-Propyl-8-methoxyquinazoline, and its salts (Trögen and Sabewa), A., 1090.

Propyl-α-naphthaquinone, 3-hydroxy-2-β-ehloro-, and 3-hydroxy-2-β-hydroxy-, and their acetyl derivatives (Fieser), A., 155.

a-Propyl-a-pentenamides, isomeric (MACQ), A., 653. cis- and trans-a-Propyl-Aa-pentenonitriles (MACQ), A., 652.

a-isoPropyl-Δγ-pentenoylcarbamide (HOFFMANN-LA ROCHE &

Co.), (P.), B., 574; (Boedecker), (P.), B., 860. 3-n-Propylphenyl isobutyl ketone, 4-hydroxy-, and its derivatives

(Rosenmund and Schulz), A., 668. β-p-isoPropylphenylethyl alcohol (v. Braun and Wirz), A., 254.

β-p-isoPropylphenylethyl bromide (v. Braun and Wirz), A., 254. 3-n-Propylphenyl ethyl ketone, 4-hydroxy-, and its semicarbazone (Rosenmund and Schulz), A., 667.

3-n-Propylphenyl heptyl ketone, 4-hydroxy-, and its semicarbazone (Rosenmund and Schulz), A., 668.

3-n-Propylphenyl methyl ketone, 4-hydroxy-, and its semicarbazone (Rosenmund and Schulz), A., 667.

β-p-isoPropylphenylpropionitrile (v. Braun and Wirz), A., 254. γ-p-isoPropylphenyl-n-propylamine, and its salts and benzoyl derivative (v. Braun and Wirz), A., 254.

 γ -p-isoPropylphenyl-n-propylaminoacetic acid, derivatives of (v. Braun and Wirz), A., 254.

3-n-Propylphenyl n-propyl ketone, 4-hydroxy-, and its semicarbazone (Rosenmund and Schulz), A., 667

2-n- and iso-Propylphthalides (TASMAN), A., 1186.

Propylpiperidine, N-y-hydroxy-, and its hydrochloride (Barnes and Adams), A., 673.

cycloPropyl-n-propylisobutylcarbinol (BRUYLANTS), A., 878.

2-n-Propylpyridine-5-carboxylic acid, and its salts (Benary), A.,

Propylpyridinium chloride, γ-hydroxy- (BARNES and ADAMS), A.,

"3-Propylsaccharin," C-hydroxy-, and its dibenzoyl derivative (Oddo and Mingoia), A., 874.

2-n-Propylthiol-4:5-diphenyl-1:3:4-thiodiazine (Bose), A., 64. 6-n-Propylthymol, and its methyl ether (Rosenmund and Schulz), A., 667.

6-n- and iso-Propyl-1:3:5-triazine-α-sulphonic acids (Andreasch), A., 864.

n- and iso-Propylvanillins, and their semicarbazones (Dickinson, HEILBRON, and IRVING), A., 972.

Prosapogenin, and its potassium salt and oxime (Windaus, Hampe, and Rabe), A., 42.

Protamines, enzymic hydrolysis of (WALDSCHMIDT-LEITZ and KOLLMAN), A., 698.

Protargol, albumose component of (Mannich and Gollasch), B.,

Proteases and proteolytic inhibitors (Weber and Gesenius), A.,

yeast, adsorption and separation of (Grassmann and Haag),

Proteins (Kondo and Hayashi), A., 268, 269; (Kondo, Hayashi, and Matsushita). A., 269; (Komatsu and Okinaka), A., 686; (Goldschmidt, Wiberg, Nagel, and Martin), A., 983; (Shita and Yanagigawa), B., 590.

structure of (Bergmann; Waldschmidt-Leitz), A., 166; (Goldschmidt), A., 474; (Shibata), A., 891; (Abderhalden and KRÖNER), A., 984.

types of linking in (Sadikov), A., 368.

anhydride nature of (Zelinski and Gavrilov), A., 582. carbohydrate group of (FRANKEL and JELLINEK), A., 862. determination of molecular weight of, osmometrically (ADAIR), A., 1212.

in phenol (Troensegaard and Schmidt), A., 785. enzymic synthesis of (Rona and Chrometzka), A., 1220.

effect of lipoid emulsions on (Marston), A., 278. composition and characterisation of (Sörensen), A., 166. physical chemistry of (Cohn and Prentiss), A., 475. refractive indices of solutions of (KONDO and HAYASHI), A.,

269.

optical properties of solutions of (RAMAN), A., 824. optical rotatory power and dispersion of (Hewitt), A., 583. action of electric current on (Sadikov), A., 1222.

activity coefficients of ions of (ADAIR), A., 1028. electrodialysis of (PAULI), A., 1100.

spreading of, on water (GORTER and GRENDEL), A., 306.

activity of solutions of (STODDARD), A., 513.

hydrolysis of (GAVRILOV, STACHEJEVA, TITOVA, and EVERGE-TOVA), A., 582; (Schryver and Buston), A., 785; (Abder-HALDEN and MAHN), A., 1099.

by acids and alkalis (YAITSCHNIKOV), A., 944. rate of hydrolysis of, in acids (GREENBERG and BURK), A., 213. effect of strong electrolytes on acid- and alkali-fixing power of

(REINER), A., 110. denaturation of (Wu and Lin), A., 688; (Wu, Tenbroeck, and

Li), A., 986.

heat denaturation of (Lewis), A., 270.

effect of heat and oxidation on nutritive value of (Goldblatt and Moritz), A., 480.

action of superheated water on (Komatsu and Okinaka), A., 686.

coagulation of, in drops (Воим), А., 935.

by organic acids (ISGARISCHEV and BOGOMOLOVA), A., 110. combination of, with acid dyes (Charman, Greenberg, and SCHMIDT), A., 686; (GORTNER), A., 1212. phosphorylation of (RIMINGTON), A., 581, 1211.

arginine content of (FÜRTH and DEUTSCHBERGER), A., 894. action of p-benzoquinones on (Cooper and Nicholas), B., 382. action of phenol on (Cooper and Sanders), A., 203.

condensation of, with sugars (Neuberg and Simon), A., 450; (Sörensen and Lorber), A., 547.

sulphur in (GORTNER and HOFFMANN), A., 581; (ABDER-

HALDEN; GORTNER), A., 1212. precipitation of, by means of tannin, in presence of tartaric and malic acids and potassium hydrogen tartrate (Errichelli),

precipitation of mastic sols by (Hotta), A., 511.

Proteins, digestion of (MARTENS), A., 687.

digestion and concentration of (Monti), (P.), B., 26.

influence of bile on digestion of (MATSUKURA), A., 278; (KARASAWA and Shoda), A., 901.

effect of hydrolytic products of, on metabolism (RAPPORT and BEARD), A., 694.

compounds of, with silicic acid, water-soluble (v. WÜLFING), (P.), B., 974.

preparation of edible products from (Bunker and American Protein Corp.), (P.), B., 504.

preparation of products containing, from animal substances (JENA), (P.), B., 457.

alcohol-soluble, in mixed solvents (DILL), A., 582; (GOTTENBERG and ALSBERG), A., 825.

basic (DUNN), A., 69. Bence-Jones, heat coagulation of (WILLHEIM), A., 273.

benzoylated (Goldschmidt and Schön), A., 581.

halogenated (VANDEVELDE), A., 65, 474, 1212.

irradiated, physical chemistry of (Spiegel-Adolf), A., 893. plasma, refractive index of (Recknagel), A., 1213. scrum, fractionation of, by electrodialysis (Тотн), A., 1214.

analysis of (PLIMMER and LOWNDES), A., 269. by fractional adsorption (WALDSCHMIDT-LEITZ and SCHÄFF-NER), A., 785.

analysis of hydrolysates of (DAVIES), A., 984.

detection of, with salicylsulphonic acid (Roche), A., 1105. determination of Hausmann numbers of (Thimann), A., 66. determination of, colorimetrically, in physiological fluids (Wu and Ling), A., 689.

determination of arginine in (BONOT and CAHN), A., 269. determination of cystine in (PLIMMER and LOWNDES), A., 269. determination of labile and total sulphur in (MAXWELL, BISCHOFF, and BLATHERWICK), A., 486.

determination of tryptophan in, colorimetrically (TILLMANS and ALT), A., 166.

determination of tyrosine and tryptophan in (FOLIN and CIOCALTEU), A., 892.

Proteolysis, effect of Röntgen rays on (Herzger), A., 697. conductivity investigation of (BAERNSTEIN), A., 992.

Prothrombin, preparation and properties of (CEKADA), A., 68.

Protractinium isolation of (GROSSE), A., 1120

Protoactinium, isolation of (GROSSE), A., 1120.
Protoberberinium salts (CHAKRAVARTI, HAWOETH, and PERKIN),

A., 1096.

Protocatechualdehyde, preparation of, and its phenylhydrazone (Fröschl and Bomberg), A., 1188.

Protocotoin, absorption spectrum and constitution of (TASARI),

Protons, masses of (SCHIDLOF), A., 1121.

radiation from collision of electrons with (Hughes and Jauncey), A., 1004. spinning (Allen), A., 183.

Protopine, synthesis of (STEVENS), A., 265.

Protoplasm (Kiesel), A., 382, 799.

Protoretenes (TSCHIRCH), A., 669.

Proustite from Sardinia (FENOGLIO), A., 336.

Prussian blue, adsorption of, by metallic hydroxides (Wedekind and Fischer), A., 309.

Pseudophillipsite from Acquacetosa (Caglioti), A., 1050.

Psychotrine hydrogen oxalate (Bendley and Pyman), A., 682. Puerperinm, nitrogen metabolism in the (Harding and Montgomery), A., 694.

Pulegone, enolic, and its salts (Geignard and Savard). A., 567. isoPulegone 8-d-bornylsemicarbazone (Goodson), A., 1082. n- and iso-Pulegones (Hugh, Kon, and Linstead), A., 1195.

Pulegone oil (Liotta), B., 458.

Pulegone oxide, and its phenylhydrazide (PRILESCHAEV), A., 669. Pulp, manufacture of (MARR and RAMAR SYNDICATE), (P.), B., 295.

wet separation of constituents of (MARTYN), (P.), B., 319, 544. bleaching of (MERRILL), (P.), B., 473.

Pulp containers (BUEL), (P.), B., 165.

Pulp industry, recovery of waste liquors in (Pomilio), B., 327.

Pulp thickeners, rotary valve for (Oliver Continuous Filter

Co.), (P.), B., 624.
Pulverisation apparatus (Reed and Berryhill), (P.), B., 63; (Kennedy), (P.), B., 160*; (Carline), (P.), B., 287; (Wood); Liggett and Jeffrey Manuf. Co.), (P.), B., 575; (Cruickshank), (P.), B., 767; (Ramsay and Mathew, Ramsay, & Co.), (P.), B., 831; (Dufffeld), (P.), B., 895; (Kramer and Hartstoff-Metall A.-G.), (P.), B., 927.

Pulverisers (WILLOUGHBY; WITZ and BABGOCK & WILCOX), (P.), B., 383; (KREUTZBERG), (P.), B., 640.

centrifugal impact (AGNEW and BROTHERTON), (P.), B., 689.

Pulverulent materials, increasing weight per unit volume of (I. G. Farbexind.), (P.), B., 591.

transformation of, into uniform small pieces for reaction with gases (I. G. FARBENIND.), (P.), B., 831.

Pumpkin-seed cake (ZAITSCHEK and JALOWETZ), B., 91.

Punicin, and its salts (KARRER and WIDNER), A., 253.

Purification apparatus for air for internal-combustion engines (Malot), (P.), B., 929.

Purines, synthesis of (MONTEQUI), A., 979.

detection of, with p-aminophenols (PITTARELLI), A., 979.

Purines, amino-, degradation of, by glyoxal derivatives (Neuberg and Kobel), A., 863.

Purple of Cassius, grating constant of (Levi and Fontana), A., 1128.

Purpurin, synthesis of, by condensation of phthalic anhydride with 2:4-dibromophenol (Tanaka), A., 972.

Puzzuolana, nitrifying power of (Serono and Guerci), B., 56. Pykno-manometry (Trautz and Triebel), A., 615.

Pyramidone, solubility of, in water (Charonnat), A., 829. compounds of disubstituted barbituric acids and (Chem. Fable, vorm. Schering), (P.), B., 172.

stabilisation of molecular compounds of butylchloral hydrate and (CHEM.-PHARM. BAD HOMBURG), (P.), B., 573.

additive compound of veronal and (Santesson), A., 64. methods of analysis of (Borloz), B., 764.

Pyrargyrite from Sardinia (FENOGLIO), A., 336.

Pyrazoles, 4-hydroxy-, tautomeric (Bertho and Nüssel), A., 1204.

Pyrazole series, isomerism in (v. Auwers and Bahr), A., 677; (v. Auwers and Mausole), A., 1088.

Pyrazoleanthrone dyes, vat (Holl and Grasselli Dyesture Corp.), (P.), B., 627.

Pyrazole-5-carboxylic acid, 4-amino- (Bertho and Nessel), A., 1204.

Pyrazole-3:5-dicarboxylic acid, 4-amino-, and 4-hydroxy-, silver salt and esters of (Bertho and Nüssel), A., 1204.

Pyrazolines, spectrochemistry of (v. Auwers and Hermke), A., 1203.

Pyrazoline-1-carboxylamide (v. Auwers and Heimke), A., 1203. Pyrazolone dyes, manufacture of (f. G. Farbenind.; Farbw. vorm. Meister, Lucius, & Brüning), (P.), B., 869.

from hydrazino 4 - hydroxy - 3 - carboxydiphenyl sulphides (Bertish Dyestuffs Corp. and Menhoza), (P.), B., 597.

Pyrazoloquinoline, and 8-chloro-, and its hydrochloride (Fries and Tampke), A., 783.

Pyridine, density of mixtures of water and (WOODMAN), A., 196. catalytic hydrogenation of (Sadikov and Mikhailov), A., 253.

velocities of reaction of benzyl bromide with, in various solvents (MUCHIN, GINSBURG, and MOISSBURGA), A., 524.

oxidation of with potassium permanganate (Delkerne), A., 254.

action of sulphuryl chloride on (BAUMGARTEN), A., 674.

behaviour of, in lower animals (Konort, Sendut, Sacara, and Takamatsu), A., 170.

hexabromostannate (Costrant), A., 1179.

compounds of, with metallic salts (Weinland, Effinger, and Beck), A., 673.

derivatives of (PIERONI), A., 573.

production of iodo-derivatives of (RATH), (P.), B., 829.

volume of, in its compounds with calcium iodide (BILTZ, KLATTE, and RARLES), A., 1143.

additive compounds of, with mercaptanic platinum compounds (RAY, GURA, and BONE-RAY), A., 444.

determination of, in tar oils (KATTWINKEL), B., 292.

Pyridine, 2-amino-, tautomerism of (TSCHTTSCHIBABIN), A., 468, condensation of, with aliphatic-aromatic ketones (SCHMTD and BANGLEB), A., 158.

products of action of phenacyl bromide on (TECHTECHIBABIN), A., 468.

chlorolodo-derivatives of (CHEM. FASR. VORM. SCHERING), (P.), B., 572.

3-amino- (I. G. FARBENINO.), (P.), B., 8.

2:3-diamino-, and its picrate, preparation of (Konophicki and Plazer), A., 1200.

diamino- and mono- and di-ehloro-diamino-, and their salts and derivatives (TSCHITSCHIBABIN and KIRSANGV), A., 486.

Pyridine, 3-amino-2-hydroxy-, 5-iodo-2-amino-, and 5-iodo-2hydroxy- (Deutsche Gold- & Silber-Scheideanstalt vorm. Roessler), (P.), B., 379.

4-chloro-3-nitro-, hydrochloride (Koenigs and Fulde), A., 1205. iodo-, production of (BINZ, RATH, and DEUTSCHE GOLD- & SILBER-SCHEIDEANSTALT VORM. ROESSLER), (P.), B., 669.

5-iodo-2-amino-, production of (Räth), В., 507.

3-iodo-5-nitro-2-hydroxy-(Deutsche Gold- & Silber-Scheide-ANSTALT VORM. ROESSLER), (P.), B., 507.

Pyridine series, tautomcrism in (TSCHITSCHIBABIN), A., 885. arsenic compounds of (BINZ and RÄTH), A., 890.

2-5-Pyridinearsenobenzoic acid, 2-2-hydroxy- (DEUTSCHE GOLD-& Silber-Scheideanstalt vorm. Roessler), (P.), B., 670.

4-5-Pyridinearsenophenol, 2-amino-4-2-hydroxy-, and its formalde-hydesulphoxylate (Deutsche Gold- & Silber-Scheide-Anstalt vorm. Roessler), (P.), B., 670.

8-5-Pyridinearsenoquinoline, 8-2-hydroxy- (Deutsche Gold- & SILBER-SCHEIDEANSTALT VORM. ROESSLER), (P.), B., 670.

Pyridine-5-arsinic acid, 2-amino-, and its salts (TSCHITSCHIBABIN and Kirsanov), A., 466.

2-amino-, 2-halogeno-, 3-halogeno-2-hydroxy-, and 2-hydroxy-, and its salts (Binz and Räth), A., 890.

3-bromo-2-hydroxy- (Binz and Räth), (P.), В., 734. 2-chloro- (Pieroni), A., 573.

Pyridine-3-carboxylamides (Soc. Chem. Ind. in Basle), (P.), B., 237*.

Pyridinecarboxylic acids, preparation of soluble derivatives of (CHEM. FABR. VORM. SCHERING), (P.), B., 286.

Pyridine-2:3-dicarboxylic anhydride, manufacture of (Soc. CHEM. Ind. in Basle), (P.), B., 348.
Pyridine-hæmins (Hamsík), A., 1100.

Pyridinevanadic sulphates (MEYER and MARKOWICZ), A., 32.

Pyridinium fluorosulphonate (Lange), A., 532.

5-Pyridylarsine, 2-halogeno-, and 2-hydroxy- (Binz and Rätii),

5-Pyridylarsinoxide, 2-amino-, 2-halogeno, 3-halogeno-2-hydroxy-, and 2-hydroxy- (Binz and Räth), A., 890.

5-Pyridyldichloroarsine, 2-hydroxy- (Deutsche Gold- & Silber-SCHEIDEANSTALT VORM. ROESSLER), (P.), B., 670.

3-Pyridylhydrazine, preparation of (Deutsche Gold- & Silber-SCHEIDEANSTALT VORM. ROESSLER), (P.), B., 572.

4-Pyridylmalonic acid, 3-nitro-, sodium salt and ethyl ester of (Koenics and Fulde), A., 1205.

2:2'-Pyridylpyrrole, complex metallic salts of (Emmert and Brandl), A., 1204.

β-Pyridyl-α-pyrrolidine. See Nornicotine.

Pyrimidine derivatives, synthetic, glucosides of (HAHN and LAVES), A., 1057.

behaviour of, in organisms (HAHN and HAARMANN), A., 993.

2:4:6-trichloro-, derivatives of (WINKELMANN), Pyrimidine, A., 678.

Pyrimidines, amino-, action of yeast on (HAHN and HAARMANN),

Pyriminazol-2-one, and its salts and derivatives (Reindel and v. Putzer-Reybegg), A., 161.

dye, and its derivatives, from action of potassium ferricyanide on (REINDEL and RAUCH), A., 162.

3-Pyriminazyl-3'-dioxindole, and its hydrochloride (Reindel and v. Putzer-Reybegg), A., 161.

Pyrite, thermal decomposition of (HALVERDAHL), B., 940.

Pyrites, electrolysis of, in solutions of ammonium chloride and sulphate (Saxon), A., 322.

utilisation of liquors from chloridising of roasted (REYMERS-HOLMS GAMLA IND. AKTIEBOLAG), (P.), B., 555.

desulphurisation of (METALLBANK & METALLURGISCHE GES.), (P.), B., 369.

by hydrogen (Gallo), B., 279.

as a wireless detector (SCHLEEDE and BUGGISCH), A., 504.

in coal, oxidation of (LI and PARR), B., 66. copper, electrolysis of (Saxon), A., 1153.

zinciferous, treatment of (SCHUMACHER), (P.), B., 632. determination of sulphur in (Kastner), B., 480.

Pyroanhydroquinonie acid (WIELAND and ERLENBACH), A., 563. Pyrocatechol, crystal structure of (SARKAR), A., 98.

acetyl and acetylbenzoyl derivatives (GREEN), A., 354. compounds of arsinoacetic acid and (ENGLAND), A., 65. geranyl ethers, and their lead salts (Kawai), A., 1183.

Pyrocatechol, 4:5-dibromo-, diacetate (Koun and Perifer),

A., 967.

Pyrocatechol, tetrabromo-, transformation products of (Zetzsche and Sukiennik), A., 365.

Pyrocatechol-eitraconein (DHAR and DUTT), A., 969.

Pyrocatechol-iminazophthalein (TEWARI and DUTT), A., 977.

Pyrocatechol-itaconein hydrochloride (DHAR and DUTT), A., 969. Pyrogallol, condensation of, with cinnamic acid (Ellison), A., 880.

Pyrogallolbenzein, and dibromo-, and dinitro-, and their salts and derivatives (ORNDORFF and WANG), A., 671.

Pyrogallol-citraconein (DHAR and DUTT), A., 969.

Pyrogalloldisulphonyl chloride (Pollak, Gebauer-Fülnegg, and LITVAY), A., 354.

Pyrogallol-itaconein (DHAR and DUTT), A., 969.

Pyroligneous acid, crude, acids from (Seib), B., 593. Pyromellitic acid, derivatives of (DE DIESBACH and GUIL),

Pyromellitic anhydride, complex compounds from (Seka and

SEDLATSCHEK; SEKA, SCHMIDT, and SEKORA), A., 360. p-Pyromellitide, dichloro. See 1:4-Bis(chlorohydroxymethyl)-

benzene-2:5-dicarboxylic acid, dilactone of.

Pyrometers, disappearing filament (Foster), (P.), B., 288. optical (Hase), (P.), B., 592; (Siemens Bros. & Co. and Salmon), (P.), B., 634; (Keinath and Siemens & Halske), (P.), B., 863*

Pyromorphites of Braubach (CAROBBI and RESTAINO), A., 956. from Lanarkshire (CAROBBI), A., 1164.

Pyrone derivatives, infra-red absorption spectra of (Ross), A., 90. a-Pyrone, 4-chloro-6-hydroxy-, 5-phenylhydrazone, and 3-chloro-2-bromo-6-hydroxy- (Malachowski and Kalinski), A., 229.

Pyrones, action of diazonium salts on (MULLEN and CROWE),

1:4-Pyrones, synthesis of (Borsche and Peter), A., 570.

Pyroquinovic acid, derivatives of (WIELAND and ERLENBACH), A., 562.

Pyrosulphites. See under Sulphur.

Pyrotechnic compositions, non-detonating, manufacture of, (VICKERS, LTD., and BERGER), (P.), B., 766.

Pyrrhotine (pyrrhotite), lattice data for crystals resembling (DE JONG and WILLEMS), A., 815.

hydro-metallurgical treatment of (TRAILL and McCLELLAND), B., 282.

nickeliferous, recovery of iron and sulphur from (MABEE and SMAILL), B., 283.

Pyrrole, polymerisation of (Tronov and Popov), A., 775. mercurated salts of (Ciusa and Grillo), A., 685.

derivatives of (PUTOCHIN), A., 157. Pyrroles, nitrogen-alkylated, isolation of (REICHSTEIN), A., 573.

determination of active hydrogen in (FISCHER and WALTER), A., 1099. Pyrrole series (Alessandri and Passerini), A., 466.

Pyrrole-1-carboxylic acid, and its ammonium salt (Tschelincev and Maxorov), A., 254.

Pyrrole-2-dithiocarbonic acid, and its salts and disulphide (Oddo and Mingoia), A., 158.

Pyrrolidine, synthesis of (Keil), A., 137.

and its toluenesulphonyl derivative (MÜLLER and SAUERWALD), A., 884.

derivatives, manufacture of (BRITTON and Dow CHEMICAL Co.), (P.), B., 268.

Pyrrolidones (RAMART and FASAL), A., 672.

2-Pyrrolidone-5-carboxylic acid, 1-amino-, and its salts and derivatives (DARAPSKY and PHILIPP), A., 672.

peri-Pyrrolinoanthranolazyls (Scholl, Semp, and Stix), A., 675. Pyrrologuinoline derivatives (FAWCETT and ROBINSON), A., 1088. 1-Pyrroylaminoacetic acid, ethyl ester (TSCHELINCEV and MAXO-Rov), A., 254.

1-Pyrroylglycine (Tschelincev and Maxorov), A., 254.

a-Pyrrylmethylamine (Putochin), A., 157.

Pyruvic acid as a product of alcoholic fermentation (RIMINI), A., 279; (Traetta-Mosca), A., 379.

fermentation of (HAGGLUND and AHLBOM; NEUBERG), A., 379; (HAEHN and GLAUBITZ; LEBEDEV; NEUBERG and Simon), A., 902.

oxidation of (BLEYER and BRAUN), A., 541. condensation of, with paraformaldehyde (Feofilaktov), A.,

behaviour of, in the diabetic liver (LAUFBERGER), A., 374. esters, manufacture of (Boehringer & Sohn and Hausler),

(P.), B., 237. ureide, and its phenylhydrazone (Seekles), A., 366. Pyruvic acid, chlorobromo-, salts of (GARINO and BORNATE), A., 645.

oximino-, biochemical conversion of, into alanine (MAURER), A., 1221.

Pyruvic guaneide (Garino and Dagnino), A., 652.

Pyrylium salts (De), A., 773, 974.
synthesis of (Pratt, Robertson, and Robinson), A., 1083; (IRVINE and ROBINSON; ROBERTSON and ROBINSON), A., 1084.

Pysalin (KYLIN), A., 669.

Pythons, extractions of muscle of (Keil, Linnewell, and Poller), A., 987.

Quanta, fundamental equation of (DE Donder), A., 1121. radiationless changes of (WENTZEL), A., 807.

Quantization (Thomson and Fraser), A., 710.

Quantum mechanics and direction-degeneration (OPPENHEIMER), A., 607.

states, sharpness of (HETTNER), A., 89. theory (FLINT and FISHER), A., 710. and Zeeman effect (EPSTEIN), A., 83. Quartz, structure of (MEISSNER), A., 1014.

purification of (British Thomson-Houston Co. and Thomson), (P.), B., 76.

absorption spectrum of (Dreisch), A., 496.

rotatory dispersion of, in infra-red and ultra-violet (Lowny and COODE-ADAMS), A., 813.

effect of the electric field on optical activities of (ZE), Λ ., 921. inversion temperature of (BATES and PHELPS), A., 1018. working of (BERRY and GEN. ELECTRIC Co.), (P.), B., 333*. heat treatment for breaking of (HOLMAN), B., 140.

covering fibres of, by cathodic pulverisation (QUELLE), A., 127. coating articles with (SCHOOP), (P.), B., 221.

crystalline, thermal conductivity of (KAYE and HIGGINS), A., 12.

fused, adsorption of benzene vapour by (LENHER), A., 198. scaling of molybdenum and like metals with (MILER and HANOVIA CHEM. & MANUF. Co.), (P.), B., 80.

manufacture of products of (Thomson and Gen. Electric

Co.), (P.), B., 109. transparent to ultra-violet light, manufacture of (Corning GLASS Co.), (P.), B., 141

β-Quartz, crystal structure of (HYLLERAAS), A., 1015.

Quartz bulbs, evolution of gases from heated (Biltz and Müller), A., 849.

Quartzines, constitution of (Longchambon), A., 38.

Quartzite, microscopy of (Hibsch), B., 580.

Quebracho alkaloids (HAHN), A., 888.

Quebracho extracts, adsorption of fluorescent substances from (GERNGROSS, SANDOR, and TSOU), B., 373.

fluorescein and fluorescence reactions of (Gerngross and HÜBNER), B., 853.

determination of, in vegetable tanning extracts (Gerngross and HÜBNER), B., 854.

Quebrachoic acid, and its derivatives (HAHN), A., 888.

Quercetin pentamethyl ether, reduction of (FREUDENBERG and Kammüller), A., 251.

Quercitin glucosides, position of sugar nucleus in (ATREE and PERRIN), A., 231.

Quercus incana (Kumaon oak), tannin content of wood of (Chaturvedi and Watson), B., 20.

Quercus sessiliflora (oak), tannin from (Kurmeier), B., 611. Quillaic acid, sapogenins of (WINDAUS, HAMPE, and RABE), A., 42. isoQuinazindol-2-one (ASAHINA, MANSKE, and ROBINSON), A., 982. Quinazoline derivatives, synthesis of (Tröger and Bohnekamp),

Quinazolines (Bogert and McColm), A., 1205. Quinazolones (HELLER and SILLER), A., 676. Quinces, l-malic acid in (NELSON), A., 798.

Quinidine, pharmacology of (Weiss and Hatcher), A., 376. Quinine, action of, on enzymes (SMORODINCEY and DANILOY), A., 377; (SMORODINCEY and ADOVA), A., 591.

pharmacology of (Weiss and Hatcher; Hatcher and Gold), A., 376.

solutions for injection, manufacture of (CHEM. PHARM. A.-G., BAD HOMBURG), (P.), B., 317; (LIEBRECHT and CHEM.-PHARM. A.-G., BAD HOMBURG), (P.), B., 956*.

Quinine bromocyanide, and cyano-, and its hydrochloride (Born-RINGER & SOEHNE, ROTHMANN, and HILCKEN), (P.), B., 828. hydrochloride, additive compound of antipyrine and (Santes-

son), A., 64.

sulphate, luminescence of (Petrikaln), A., 497. sulphatoperiodide. See Herapathite.

additive compound of carbon suboxide with (DIELS and Hanson), A., 41.

derivatives, pharmacology of (DIXON and DE), A., 1220.

determination of, in blood (Roy), A., 371.

determination of, in urine (SMORODINCEV and ADOVA), A., 1105. Quinizarin, structure of (GREEN), A., 1080.

derivative of, with stannic chloride (Peeiffer, Oberlin, and SEGALL), A., 247.

Quinizarin, 2-ehloro-, preparation of (Newport Co.), (P.), B., 838.

Quinochromin, structure of (WIELAND and ERLENBACH), A.,

Quinol, crystal structure of (CASPARI), A., 10, 612.

dimethyl ether, chlorotribromo- (Kohn and Dömörör), A., 51. di-p-toluenesulphonate (Borsche and Frank), A., 51.

methyl and dimethyl ethers, bromo-derivatives (IRVINE and Sміти), A., 240.

2-chloro-6-bromo- (Kohn and Sussmann), A., 966.

Quinol, 2:3-dichloro-, and its dimethyl ether (Gebauer-Fülneog and Malnio), A., 240.

3-chloro-2:6-dibromo-, and its derivatives (Kohn and Zandman), A., 52.

Quinols, substituted, sublimation pressures of (A. S. and M. S. Coolidge), A., 195.

Quinol-iminazophthalein, hydroxy- (Tewari and Dutt), A., 977. Quinoline, synthesis of (Bodforss), A., 775. hexabromostannate (Costeanu), A., 1179.

additive compound of, with platinum chloride (Rav, Bosz-

Rây, and Guha), A., 444. derivatives (John, Fischl, and Wünsche), A., 159; (John and Kahl), A., 467; (Roberts and Turner), A., 975; (John;

TRÖGER and BOHNEKAMP), A., 1200. manufacture of (Farbenfabr. vorm. Bayer & Co.), (P.), B., 379; (BRITISH DYESTUFFS CORP. and WYLER), (P.),

B., 809.
oline. 7-amino-8-hydroxy-, 7-iodo-5-amino-8-hydroxy-, Quinoline. 5-iodo-8-hydroxy-, and 7-iodo-5-nitro-8-hydroxy-, and their salts and acetyl derivative (Matsumora), A., 467.

trichloro-, and 2:4-dihydroxy- (Koller), A., 674.

2-hydroxy-. See Quinosol.

8-hydroxy-, salts of (Berg), A., 674.
vanadium compound of (HAHL, KROPP, and WINTHROP CHEM.

Co.), (P.), B., 92. separation and determination of metals by (Berg), A., 436,

639, 745, 847, 848; (HAHN and VIEWEG), A., 639. 2:6-dihydroxy-, from oryzanin, effect of, on polyneuritis of

pigeons (Sahashi), A., 487. isoQuinoline, behaviour of, in the organism (Таканази), A., 1107.

derivatives, synthesis of (CHARRAVARTI, HAWORTH, and Perkin), A., 1096.

Quinolines, purification of (WYLER), A., 365.

Quinolines, \(\beta\)-substituted (Berlingozzi and Burg), A., 674, 1087. n- and iso-Quinolines, additive compounds of with carbon suboxide (DIELS and HANSEN), A., 41.

isoQuinoline alkaloids (KITASATO), A., 1094.

Quinoline rings, relative stability of indoline rings and (AESCHLI-MANN), A., 256.

Quinoline series, substitution in (ROBERTS and TURNER), A., 975. isoQuinoline series (Rosenmund, Nothnagel, and Riesenfeldt), A., 367.

n- and iso-Quinolinearsinic acids, and 2-hydroxy- (Binz and Rätii), A., 580.

Quinoline-7-azobenzene-5-sulphonic acid, 8-hydroxy-, and its sodium salt (MATSUMURA), A., 467.

Quinoline-3-carboxylic acid, 2-amino-, and its magnesium salt and derivatives (Rupe and Heckenborn), A., 61.

2:4-dihydroxy-, methyl ester and its sodium derivatives (Koller), A., 674.

Quinoline-4-carboxylic acid, 2:G-dihydroxy-, synthesis of (Sahashi), A., 1086. Quinolinecarboxylic acids, preparation of soluble derivatives of

(CHEM. FABR. VORM. SCHERING), (P.), B., 286. Quinoline-4-carboxylic acids (Berlingozzi and Turco), A., 674.

1086.

Quinoline-2:4-dicarboxylic acid, reduction products of (Nozoe), A., 364.

Quinoline-5-sulphonic acid, 7-amino-8-hydroxy-, and its derivatives, and 7:8-dihydroxy- (MATSUMURA), A., 467.

Quinolinium benzenesulphonate (Gebauer-Fülnegg and Riesen-FELD), A., 139.

Quinolino-6:5-a-pyrones. See ψ -1:8-isoNaphthoxazones.

 β -8-Quinolinylmethylamino- δ -dimethylaminoisopentane (FARBEN-FABR. VORM. BAYER & Co.), (P.), B., 379.

2-Quinolone-4-oarboxylic acid, 6-iodo-, and 2-thiol-, and their derivatives (AESCHLIMANN), A., 256.

trans-Quinolyl-5-β-acrylic acid, 6-hydroxy-, and its salts and derivatives (DEY and SESHADRI), A., 977.

8-Quinolylarsine, and dichloro-, hydrochloride (Binz and Räth), A., 580.

8-Quinolylarsinoxide hydrochloride (Binz and Rath), A., 580. Quinolyl-5-ethylene, 6-hydroxy- (DEY and SESHADRI), A., 977. Quinone. See Benzoquinone.

Quinone derivatives, production of (WYLAM, HARRIS, DRESCHER, THOMAS, and SCOTTISH DYES), (P.), B., 869. Quinones, reduction potentials of (CONANT), A., 522; (FIESER and

AMES), A., 1198.

photochemical reduction of (Lüers and Mengele), A., 76. condensation of, with phenols (Pummerer and Huppmann), A., 770.

action of substances containing active methylene group on (IONESCU), A., 1079.

hydrogenated polynuclear, manufacture of (Skita), (P.), B., 398.

substituted, sublimation pressures of (A. S. and M. S. Coolidge), A., 195.

Quinone dyes, vat, preparation of (I. G. FARBENIND.), (P.), B., 578.

vat, manufacture of (Soc. Chem. Ind. in Basle), (P.), B., 648.

Quinonedisulphones (RECSEI), A., 1079. Quinonehydrazones, relation between p-hydroxyazo-compounds and (Borsche and Frank), A., 50.

Quinonethiolimes (Gebauer-Fülnegg and Beatty), A., 669. meri-Quinonoid salts (Piccard), A., 50.

Quinopyrine, formation of, from quinine hydrochloride and antipyrine (Santesson), A., 64.

Quinosol preparations, analysis of (Berg), B., 58.

Quinovic acid, and its derivatives (WIELAND and ERLENBACH),

Quinoxaline (HINSBERG), A., 62.

isomerism of reduced derivatives of (Gibson), A., 366.

R.

Rabbits, ester-hydrolysing enzymes in extracts of (FALK and Noyes), A., 483.

fate of deoxyglucose in (WINTER), A., 282. fate of galactose in (CORLEY), A., 897.

Racemisation (Levene and Bass), A., 1212.

Radiation, measurement of intensity of, photographically (BAKER),

quantum theory of emission and absorption of (DIRAC), A., 394. and photo-electric effect (Loring), A., 394. absorption coefficient of, for stellar material (Roy), A., 495. chemical action of (VILLARD; DE MONCETZ), A., 218. as a discrete element (BECK), A., 807. high-frequency, properties of (GRAY), A., S7.

resonance, source of (TUVE), A., S4.

Radiation substances with weak irradiation (ZWAARDEMAKER), A.,

Radiation theory of activation (Lewis and Mayer), A., 948. organic, reactivity and stability of linking of (KINDLER), A., 55; (KINDLER, TREU, and FÜRST), A., 338.

degree of negativity of (KHARASCH and MARKER), A., 164. electron-sharing ability of (HIXON and JOHNS), A., 814. tenacity of (v. Braun and Tauber), A., 1179.

free (Scholl, Semp, and Stix), A., 675; (Scholl, Stix, and SEMP), A., 885.

occurrence of, in chemical reactions (WIELAND, HINTER-MAIER, DENNSTEDT, and LORENZO), A., 237.

Radioactive atoms, structure of (RUTHERFORD), A., 1002. compounds, fractional crystallisation of (Chlopin and Nikitin), A., 1133.

Radioactive compounds, luminous, theory of luminescence of (Walsh), A., 807.

decay constants in relation to series number (Sokolov), A., 1121. elements, relation between atomic weights of, and their speed of emission of a-particles (FOURNIER), A., 393. electrodeposition of (Joliot), A., 633.

aggregates of, in acid solutions and on activated surfaces

(CHAMIÉ), A., 1120.

in mercury, grouping of atoms of (Chame), A., 605. emanations, charging of liquids with (LEPAPE and LEVOUX), (P.), B., 434.

haloes (Russell), A., 1003.

isotopes, order of stability of (Russell), A., 1002.

material, treatment of liquids with (VAUGEOIS), (P.), B., 47. increasing activity of (GASCHLER), (P.), B., 882.

minerals, calculation of age of (Holmes and Lawson), A., 493. Radioactivity, luminescence due to (Kabakjian), A., 290.

and heat of the earth (LAWSON), A., 225, 493; (EVANS), A., 289. of matter exposed to sun's rays (MARACINEANU), A., 710. of rocks. See under Rocks. of water. See under Water.

Radio-detectors, ferrosilicon for (Thuaud), (P.), B., 195. Radiothorium, heat of radiation of (Dorabialska and Yovano-VITCH), A., 606.

calorific effect of β - and γ -rays of (Yovanovitch and Dora-BIALSKA), A., 4.

Radium, scattering and absorption of y-rays of (CAVE and GRAY),

chemical effects of penetrating rays of (Kailan), A., 290. emission of α-particles by (Jedrzejovski), A., 710.

heat of radiation of (Dorabialska and Yovanovitch), A., 182. emanation. See Radon.

bromide, equilibrium of barium bromide, hydrogen bromide, water, and (Chlopin and Nikitin), A., 1133.

chromate, fractional precipitation of (HENDERSON and KRACEK), A., 431.

separation of, from barium (KENDALL, JETTE, and WEST), A., 86.

Radium-B and C, β -ray spectra of (Ellis and Wooster), A., 393. ionising powers of (JEDRZEJOVSKI), A., 393.

intensities of y-rays of (Ellis and Wooster), A., 606. Radium-C, velocity of a-particles from (Briggs), A., 392, 393. γ-rays from (Kohlrausch), A., 182; (Skobelzyn), A., 710.

Radium-C', existence and half-value period of (BARTON), A., 86. Radium-D, -E, and -F, disintegration of (Kikuchi), A., 1003.

Radium-E, β -ray spectrum of (Madgwick), A., 1120. energy emitted as γ -rays by (Aston), A., 1121.

Radon (radium emanation; niton), liberation of, from its sources VAUGEOIS), A., 86.

collection of (FAILLA), (P.), B., 166. spectra of thorium, uranium, and (NAGAOKA and FUTAGAMI),

A., 182.

ionisation produced by, in spherical vessels (Glockler), A., 1003.

influence of, on salt balance in rabbits (STRANSKY), A., 74. Raffinase (ISAJEV), A., 591, 631.

Raffinase, structure of (Zemplén), A., 545. velocity of hydrolysis of (Isajev), A., 631.

constant of hydrolysis of, by invertase (PAINE and BALCH), A., 525.

Raisins, treatment of (SUN-MAID RAISIN GROWERS OF CALI-FORNIA), (P.), B., 123.

Raoult's law, anomalies of (Jouniaux), A., 410.

deviations from (HILDEBRAND), A., 936.

Rape oil, separation point of, from mixtures with aniline (KLAMER), B., 946.

phytosterol from, and its derivatives (SCHMID and WASCHKAU), Å., 872.

Rats, diet required for growth of (PALMER and KENNEDY), A.,

growth of, on diets rich in proteins (Hassan and Drummond), A., 702.

effect of diet on the bones of (Chick, Kovenchevsky, and Roscoe), A., 176.

ester-hydrolysing enzymes in extracts of (Nones and Falk), A.,

formation of fats from carbohydrates in (Wesson), A., 797. insulin-like material in sarcoma of (Roffo and Correa), A., 373.

ketosis in (Levine and Smith), A., 1218.

Rats, magnesium in, at different ages (MEDES and HUMPHREY), A., 894. rickets in (Karelitz and Shohl), A., 790; (Shohl and Ben-NETT), A., 988. albino, creatine and creatinine in muscle of (Akatsuka), A., 900. white, effect of sulphur on growth of (G. T. and H. B. Lewis), young, effect on, of administering iodine to the mother (MAURER and DIEZ), A., 481. Rays, chemical action of (VILLARD), A., 323. various, penetrability of, through glass (Sugie), A., 90. atomic, velocity selector for (TYKOCINSKI-TYKOCINER), A., 605. Becquerel, discoloration and luminescence due to (PRZIBRAM), canal, polarisation of light from (Döpel and v. Hirsch), A., 180; (Rupp), A., 292, 1002. luminescence of (v. Traubenberg), A., 1002. influence of metal walls on loss of charge of (KOENIGSBERGER), scattering of, in hydrogen (CONRAD and KOENIGSBERGER), A., 493; (Steubing), A., 919. behaviour of Schumann plates in observation of (WIEN), A., secondary magnetic, at electrodes (Goldstein), A., 493. cathode, production of, by absorption of Röntgen rays (Robin-SON and CASSIE), A., 3. diffraction of, by celluloid films (Thomson and Reid), A., ionisation due to absorption of, in air and various gases (LEHMANN and OSGOOD; LEHMANN), A., 914. scattering of (Schonland), A., 3. high-voltage, experiments with (Coolings and Moore), A., slow, excitation of phosphorescence by (Ernst), A., 609. positive, emission of (Morand), A., 492. spectra. See under Spectra. scattering of, by gases (Thomson), A., 4. Röntgen, production of (Webster), A., 803. production of, by electronic impact (Thomas), A., 911. atomic nature of properties of (Delauney), A., 803. refraction of (Kronic), A., 83. diffraction of, by liquids (Zernike and Prins), A., 295; (RAMAN and ŠOGANI), A., 499, 1015; (CLARK, ABORN, BRUGMANN, and DAVIDSON), A., 924; (SOGANI), A., 924, 1129; (STEWART and Morrow), A., 1015; (STEWART, Morrow, and Skinner), A., 1130. refraction of, by glass and metals (Edwards), A., 921. reflexion of, by crystals (BEARDEN; PONTE), A., 191. by powdered crystals (HAVIGHURST), A., 95. from fine powders (BRENTANO), A., 1012. coherence of, reflected from crystals (Jauncey and Compton), A., 1013. spectra. Sec under Spectra. satellites of lines of (Coster and Druyvesteyn), A., 179. J-phenomena in (BARKLA and MACKENZIE; BARKLA and Watson), A., 3. fluorescence absorption coefficients of (Allen), A., 83. Compton effect and photo-electric effect in (Kirchner), A., separation of the scattering coefficients of (DeFoe and Jaux-ČEY), A., 1118. mass-scattering coefficient of (MERTZ), A., 83. scattering of, by copper (Jauncey and Coven), A., 999. measurement of light quanta in beams of (Kossel and STEENBECK), A., 706. phenomena related to, as a function of frequency (GLOCKER), A., 999. effect of chemical combination on absorption of (More-HOUSE), A., 707. effects of, in photochemical oxidation (CLARK), B., 692. energy of (RUMP), A., 706. apparatus for crystallographical investigations with (Воны), A., 954. filter for (St. John and Union Carbide & Carbon Research LABORATORIES), (P.), B., 529. protective material for (LINDSAY and CELLELOID Co.), (P.), B., 29. screens for (SAWFORD), (P.), B., 93. tube for (Holst, Bouwers, and N.V. Philips' Gloeilampen-FABR.), (P.), B., 450.

Rays, Röntgen, target of tubes for (RENTSCHLER, MARDEN, and WESTINGHOUSE LAMP Co.), (P.), B., 584. technical uses of (St. John), B., 543. application of, in metallurgy (TRILLAT), B., 17. photographs with. See under Photographs. action of, on bacteria (TRILLAT), A., 181, 281, 795. action of, on colloids (Crowther and Fairbrother), A., 935; (Clark), A., 1138. effect of, on autolysis and proteolysis (HERZGER), A., 697. of long wave-length (MARTIN), A., 912. polarised (KIRCHNER), A., 84. scattered, theory of intensity of (JAUNCEY), A., 707. azimuthal intensity of (FRIEDRICH and GOLDHABER), A., modified scattered (BARKLA), A., 602. soft, emission of, by elements (RICHARDSON and ROBERTSON), A., 804. absorption in region of (LAIRD), A., 179. use of, in analysis (NATTA), A., 38; (DESSAUER and METALI, BANK & METALLURGISCHE GES.), (P.), B., 735, 863, 959. short-wave, emission of, by poor conductors (Bodin), A., 289. ultra-violet, increasing the therapeutic value of (Hanovia Chem. & Manuf. Co.), (P.), B., 117. a-Rays, origin of (RUTHERFORD), A., 1002. passage of, through matter (WILLIAMS), A., 393. β-Rays, preparations emitting (WRESCHNER and LOEB), (P.), B., 797. absorption of, by matter (Brennen), A., 87; (Madgwick), A., passage of, through matter (WILLIAMS), A., 393. photographic action of (ELLIS and WOOSTER), A., 324. associated with scattered Röntgen rays (NUTTALL and WILLIAMS), A., 84. high-speed, from radioactive substances (Yovanovitch and D'ESPINE), A., 915. y-Rays, origin of, and polarisation of atomic nuclei (Kuhn), A., absorption of, by atom-nuclei (Kuhn), A., 606. absorption of, by lead (BASTINGS), A., 87. scattering of (ORTNER and STETTER), A., 183. internal conversion of (Swirles), A., 1004. ultra-, absorption of, by various materials (HOFFMANN), A., 289. Ray liver oil, fatty acids of (TOYAMA and TSUCHIYA), B., 706. Reactions, regions of (Jorissen and Ongkiehong), A., 112; (JORISSEN and GROENEVELD), A., 313, 732; (JORISSEN), A., 732; (Jorissen and Kayser), A., 733. ionisation in (DHAR), A., 216. hydrogen ions as a factor in lowering the order of (ROSENBERG), A., 524. at high temperatures, control of (FIELD and CHEMICAL MACHINERY COEP.), (P.), B., 287. catalytic. See under Catalytic. chemical, reversal of, by electrolysis (SANON), A., 29. kinetics of (Stabonka), A., 633. induction period in (P. and S. NEOGI), A., 214. initial formation of additive compounds in (EBEL), A., 1177. activation of, by neutral salts (ISGARISCHEV and SCHAPTRO), A., 945. inhibitory effect of substituents in (Dyson, George, and HUNTER), A., 350. apparatus for control of (HATFIELD), (P.), B., 832*. chemical and physical, carrying out of (Buhtz), (P.), B., 465*. chemical compound, time-effect in (Bodenstein), A., 492. exothermic (SCHBOEDER and METAL & THERMIT CORP.), (P.), B., 169. carrying out of, under pressure and at a high temperature (L'ARE LIQUIDE and Soc. CHIM. DE LA GRANDE PAROISSE), (P.), B., 688. entalyst for carrying out of (L'AIR LIQUIDE and Soc. CHIM. DE LA GRANDE PAROISSE), (P.), B., 832. photochemical. See under Photochemical. quasi-unimolecular (HINSHELWOOD), A., 212. unimolecular, theory of (HINSHELWOOD), A., 26. Reactivity of adjacent atoms or groups, influence of sulphur atoms on (Bennerr and Hock), A., 355 Reagents, analytical, specifications for (Collins, Fare, Rosin, Spencer, and Wichers), A., 637. Rectifiers, bubbling travs for (BARTLETT). (P.), B., 383.

Recuperative apparatus (FAHRENWALD), (P.), B., 32.

Reduction, electrolytic. See under Electrolytic.

irreversible, of organic compounds (Conant and Lutz), A., 522.

Reduction-oxidation (Hirsch and Rüter), A., 23.

potentials. See under Potential. Reed, production of cellulose and paper from (RINMAN), (P.), B., 873.

Reflecting bodies, provision of protective layers on ("MÉTALLIQUE" and "DURAL"), (P.), B., 848.

Refraction, molecular, and the parachor (HERZ), A., 189.

Refractive index, determination of, from infra-red reflexion measurements (KREBS), A., 189.

and dielectric constants (HERZ), A., 498.

relation between density and (Burnett), A., 1126.

and composition of binary mixtures (PAVLOV), A., 927.

of gases (HAVELOCK), A., 189.

variation of, with pressure (OPLADEN), A., 499.

at high temperatures (CHENEY), A., 294.

of liquids at extreme temperatures (Herz), A., 813.

of mixtures (VAN AUBEL), A., 303. of solutions (DE LATTRE), A., 616.

Refractivity of anisotropic molecules (HAVELOCK), A., 294.

Refractometer, immersion, use of, in milk analysis (Elspon and STUBBS), B., 375.

Refractories, manufacture of, for gas retorts (South Metro-POLITAN GAS Co. and LAMPREY), (P.), B., 938.

drying of (Troop), B., 630.

thermal properties of (GREEN), B., 442.

effect of porosity on (Tadokoro), B., 75.

thermal conductivity of (Norton), B., 220.

corrosion and erosion of (Hyslop, Gumm, and Biggs), B., 220. attack of slag and flue dust on (HARTMANN), B., 221.

properties of, in metallurgy of zinc (Wheeler and Kuechler), B., 750.

for electric steel furnaces (KOTHNY), B., 908.

for oil-gas manufacture (Knollman), B., 750.

for the pottery industry (EMERY), B., 44.

testing of, and their importance in gas-retort construction (STEINHOFF), B., 937.

acid-proof (Scheidhauer & Giessing), (P.), B., 702.

ceramically-bonded, manufacture of (Scheidhauer & Giessing), (P.), B., 842.

east (Fulcher and Corning Glass Works; Corning Glass

WORKS), (P.), B., 253. fireclay, plastic, U.S. specifications for (U.S. Bur. Standards),

B., 365. magnesite (U.S. METALS REFINING Co. and MARKS), (P.),

B., 300*, 878*.

silica, storage of (REES), B., 44.

silicon carbide, for water-gas generators (HARTMANN and KING), В., 332.

super-, use of, as chequer brickwork in oil-gas manufacture (Knollman), B., 702.

zirconium oxide (Deutsche Gasglühlicht-Auer-Ges.), (P.), B., 109.

analysis of (Rees), B., 654.

Refractory articles (ALUMINUM Co. OF AMERICA and HORSFIELD; CARBORUNDUM Co.), (P.), B., 300.

blocks for metallurgical furnaces (Longenecker), (P.), B., 881. coatings, production of, on metallic surfaces (Petrole SYNTHETIQUE Soc. Anon. and Follier), (P.), B., 970.

linings (Pogue and American Brake Shoe & Foundry Co.), (P.), B., 483.

materials, manufacture of (Deguide), (P.), B., 411; (Freed

and UNITED STATES), (P.), B., 878. softening point tests of (COLE), B., 779.

prolongation of life of (Škola), B., 483. working of (Koref, Moers, and Gen. Electric Co.), (P.),

spalling of (GREEN and DALE), B., 442.

testing of, and their behaviour in foundry work (Schulz). B., 44.

of South Wales (JONES), B., 410. analysis of (VAN ROYEN), B., 877.

determination of alkalis in (CIOCHINA), B., 605.

Refrigerant (Barsky and American Cyanamid Co.), (P.), B., 512. Refrigeration (DAVENPORT), (P.), B., 95; (V. PLATEN, MUNTERS, and ELECTROLUX SERVEL CORP.), (P.), B., 159, 465*; (SLATE; WALES), (P.), B., 176; (PLATEN-MUNTERS REFRIGERATING SYSTEM AKTIEB.), (P.), B., 240; (CARRIER ENGINEERING CO. and Carrier), (P.), B., 832.

Refrigeration, method and apparatus for (Silica Gel Corr., MILLER, and EDEL), (P.), B., 690.

machines for (Soc. Anon. Exploit. Proc. Leblane-Vickers), (P.), B., 431.

absorption, circulating devices for (Munters), (P.), B., 832.

working fluid for (Kucher), (P.), B., 863*; (Carrier and CARRIER ENGINEERING CORP.), (P.), B., 897.

Refrigeration apparatus (CARRIER and CARRIER ENGINEERING CORP.), (P.), B., 129; (ALTENKIRCH and SIEMENS-SCHUCKERT-CORP., (P.), B., 129; (ALTENKIGH and SIEMENS-SCHUCKERT-WERKE), (P.), B., 177*; (v. Platen, Munters, and Electro-Lux Servel Corp.), (P.), B., 177, 353*; (Le Roy and Beaumont; Boving; Guggenheim, MacGowan, Smith, and Burdick), (P.), B., 320; (Keyes and National Refrigerating Co.), (P.), B., 400; (Roos), (P.), B., 512; (Sohier), (P.), B., 544; (Barnes), (P.), B., 575; (Silica Gel Corp., Miller, and Edel), (P.), B., 640; (Daill), (P.), B. 801 B., 801.

transformation of heat as applied to (Chigao Pneumatic Tool Co. and Davenfort), (P.), B., 927.

absorption (Platen-Munters Refrigerating System Aktie-BOLAG), (P.), B., 128; (BERLIN), (P.), B., 544; (WIRTH and SULZER FRERES SOC. ANON.), (P.), B., 624*; (BOVING), (P.), B., 639, 801; (ELECTROLUX, LTD. and PLATEN-MUNTERS REFRIGERATING SYSTEM AKTIEBOLAG), (P.), B., 690, 929; (Siemens-Schuckertwerke; Sulzer Frères Soc. Anon.), (P.), B., 802.

compression (Kucher), (P.), B., 768.

Refrigeration plant (AMUNDSEN), (P.), B., 898*. Refrigerator condenser (OLIN), (P.). B., 176.

Refuse, treatment of (EVANS), (P.), B., 94.

house, treatment of residues from (HADFIELD), (P.), B., 670. Reinecke's salt, detection of alkaloids by means of (ROSENTHALER), A., 684.

Rennin, effect of, on caseinogen (Pertzoff), A., 895.

Reproduction and diet (GRIJNS and DE HAAN), A., 283; (SURE), A., 905.

influence of fat-soluble vitamins on (HOLMES, DOOLITTLE, and Moore), B., 614.

in birds (RIDDLE and BURNS), A., 1107.

Resacetophenone, condensation of, with esters of ethoxymethylene-β-ketonic acids (Weiss and Woldich), A., 250.

Resacetophenonecarboxylic acid, methyl ester, phenylhydrazone (FEIST, DELFS, and LANGENKAMP), A., 151.

Resacetophenoneimine, and its hydrochloride (Hounen and Blaese), A., 143.

Resacetophenoneoxime acetate (Lindemann, Könitzer, and Romanoff), A., 980.

o-phenylcarbamate (GHEORGIU), A., 230.

Resins (Horrmann and Kroll), B., 609. Röntgen-ray structure of (v. Náray-Szabó), B., 635.

composition of (Bobrov), B., 392.

nature of (WOLFF), B., 851.

manufacture of (Terwilliger and v. Briescu), (P.), B., 372. from formaldehyde and tar oils (Comp. Min. Vicoigne, Noeux, & DROCOURT), (P.), B., 197.

from formaldehyde and urea (LAUTER and ROHM & HAAS Co.), (P.), B., 788.

effect of moisture on electrical properties of (Lee and Lowry), B., 225.

aqueous solutions of (Papeteries Navarre), (P.), B., 147. determination of colour intensity of (FONROBERT), B., 147.

testing of, by Stock's method (Fonrobert and Pistor), B., 661. acid, working up of, into bitumens (WILHELM), (P.), B., 596. aldehyde, improvement of (HERRMANN, DEUTSCH, HAEHNEL,

and Consortium für Elektrochem. Ind.), (P.), B., 852* artificial (WRIGHT, BARTLETT, and GEN. ELECTRIC Co.), (P.),

preparation of (Consortium für Elektrochem. Ind., DEUTSCH, HÄHNEL, and HERRMANN), (P.), B., 228.

manufacture of (BRITISH CYANIDES Co. and ROSSITER),

(P.), B., 305; (I. G. FARBENIND.), (P.), B., 851. from cracked hydrocarbons (Morrell, Egloff, and Universal Oil Products Co.), (P.), B., 635. from condensation of phenol with aromatic hydroxyaldehydes

(Driver), B., 661. acid-proof coatings from (KOOLMAN), (P.), B., 260.

impregnation of porous material with (BAKELITE GES.), (P.), B., 416.

phenolic (Brown and Westinghouse Electric & Manue. Co.), (P.), B., 788.

Resins, Congo and Manila, esters of (Pearce, Carlson, and RYDSTROM), B., 228.

Finnish "fluid," composition of (PYHÄLÄ), B., 708.

natural, from Siam (GEAKE), B., 971.

neutral, from gum accroides (Prister and Rohm & Haas Co.), (P.), B., 148.

phenol-aldehyde, production of (BAKELITE GES.), (P.), B., 684. phenolic, properties of (DRUMMOND), B., 496.

fusible (Huxham and American Insulator Corp.), (P.), B., 85.

sulphur-phenol (ELLIS), (P.), B., 788. synthetic (Metropolitan-Vickers Electrical Co. and Weber), (P.), B., 85; (CHEM. FABR. ALBERT, AMANN, and Fonrobert), (P.), B., 85, 452; (Brittsh Thomson-Houston Co. and Dawson), (P.), B., 259; (CHERRY and CUTLER-HAMMER MANUF. Co.), (P.), B., 305; (LITTMANN CUTLER-HAMMER MANUF. CO.), (P.), B., 305; (P.), A., 305; (LITTMANN CUTLER-HAMMER MANUF. CO.), (P.), B., 305; (P.), A., 305; (P.), and COMMERCIAL SOLVENTS CORP.), (P.), B., 340; (GRIFFITHS BROS. & Co. and BRITTON), (P.), B., 496; (BAKELITE GES.), (P.), B., 497*, 532; (COMMERCIAL SOLVENTS CORP., LITTMANN, BROWN, and BANNISTER), (P.), B., 532; (Meigs), (P.), B., 708*; (Light; I. G. Farbenind.), (P.), B., 822; (Baekeland and Bakelite Corp.). (P.), B., 823; (McIntosh, Wolford, and Diamond State Fibre Co.), (P.), B., 916.

from amines and aldehydes (NORTH), (P.), B., 392.

from phenols and aldehydes (DE JARNY; BAKELITE GES. and SEEBACH), (P.), B., 259; (DRUMMOND), (P.), B., 756.

hardening of (POTTER, CRUMP, and DAMARD LACQUER Co.), (P.), B., 228.

used in photography (Wadsworth Watch Case Co.), (P.), B., 429

new (McIntosh), B., 147.

containing nitrogen (EIBNER and KOCH), B., 119.

phenolic, manufacture of (Kulas, Pauling, and Kulas), (P.), B., 119; (AMANN, FONROBERT, and CHEM. FABR. ALBERT), (P.), B., 148.

plasticity of (Brock and Bakelite Corp.), (P.), B., 119. fluorescence- and capillary-analysis of (WOLFF and TOELDTE),

detection of (Fonrobert and Pistor), B., 259.

Resin acids, degree of saturation of (MARGOSCHES, FUCHS, and Ruzicka), B., 228, 371, 755.

determination of iodine value of (MARGOSCHES and FUCHS), A., 551.

Resinates, industrial (UZAC), B., 50.

Resistance, variable (Maass and Mennie), A., 315.

Resmorindin chloride (PRATT, ROBERTSON, and ROBINSON),

Resonance, duration of (FUES), A., 805.

29

power of irradiated salt solutions (ANDANT and ROUSSEAU), A., 917.

Resorcinol, molecular equilibria of, in potassium chloride solutions (Bourion and Rouver), A., 515.

condensation of, with cinnamic acid (Ellison), A., 880.

alicyclic derivatives of (Talbot and Adams), A., 968.

formation of hydroxy-derivatives of diphenylene oxide from (Tsuzuki), A., 571.

polyazo-dyes from (FLETT and NATIONAL ANILINE & CHEM. Co.), (P.), B., 292.

Resorcinol, 5-bromo-, 2:4:6-tribromo-5-iodo-, 5-chloro-, 5-chloro-2:4:6-tribromo-, and 5-iodo- (Hongson and Wignall), A.,

2- and 4-bromo-, and their methyl and dimethyl ethers, and 2:6-dibromo-, 3-methyl ether (RICE), A., 150.

4:6-dibromo-, diacetate (Kohn and Pfeifer), A., 967.

4:6-diodo-, and its dibenzoyl derivative (NICOLET and SAMPEY), A., 869.

Resorcinol-citracouein, and tetrabromo- (DHAR and DUTT),

Resorcinol-iminazophthalein (TEWARI and DUTT), A., 977.

Resorcinol-itaconein, and tetrabromo-, dibromide (DHAR and DUTT), A., 969.

2-Resorcyl-5-acetyl-1:4-pyrone (Weiss and Woldien), A., 250. dl-Resorcylalanine. See dl-Phenylalanine, 2:4-dihydroxy-. 2-Resorcyl-5-benzoyl-1:4-pyrone (Weiss and Woldich), A., 250

Respiration, regulation of (GESELL and HERTZMAN), A., 67; GESELL and McGINTY), A., 166; (HERZMAN and GESELL), A., 583, 1101.

and biological decomposition (v. Euler, Nilsson, and Runeh-JELM), A., 988.

Respiration, action of carbon monoxide and nitrie oxide on (WARBURG), A., 1221.

specific action of ketones on (Gollwitzer-Meier), A., 1218.

phosphate ions as catalyst of (Lyon), Λ ., 599.

forced, variations in hydrogen-ion and hydrogen carbonate concentration of plasma and of alveolar carbon dioxide in (Lepper and Martland), A., 892.

Respiratory exchange, effect of insulin on (CHAIKOFF and MAC-LEOD), A., 795.

of decapitate and decerebrate eats, effect of insulin on (TAYLOR and Olmsted), A., 78. in frogs in muscular exercise and after injection of insulin

(OLMSTED and HARVEY), A., 78.

in tissues, effect of hydrogen-ion concentration on (COMEL), A., 583.

Respiratory metabolism after administration of carbohydrates (DEUEL), A., 1217.

Respiratory quotient of small animals (Wesson), A., 786.

effect of low-body temperature and insulin on (Finney, Dworkin, and Cassidy), A., 594.

Retene, compound of, with trinitro-m-cresol (EFREMOV and TICHOMIROVA), A., 1182.

Retorts (Newberry), (P.), B., 63; (Johns), (P.), B., 385; (Ford and Glass Container Assoc. of America), (P.), B., 767; (H. J. and H. C. McElvain), (P.), B., 799.

apparatus for discharging of (Toogood and Dempster & Sons), (P.), B., 68.

machines for discharging or charging of (Gibbons Bros. and Соок), (Р.), В., 863.

doors for (Low-Temperature Carbonisation and Parker), (P.), B., 836.

outlet pipe, scal, and discharging device for (Low-Temper-ATURE CARBONISATION and PARKER), (P.), B., 837. carbonisation (Duplan), (P.), B., 246.

rotary, heating of, at definite low temperatures (Stackmann), (P.), B., 323.

coking (Collin & Co. and Schaefer), (P.), B., 740. Freeman multiple (Sci. Ind. Research), B., 208.

"fusion" rotary, test on, at works of Electro-Bleach and By-Products, Ltd. (LANDER), B., 3.

gas, manufacture of, from clay (GAY and GIBBONS), (P.), B.,

manufacture of refractories for (SOUTH METROPOLITAN GAS Co. and LAMPREY), (P.), B., 938. importance of refractories in construction of (Steinhoff), B.,

doors for (Stettiner Chamotte-Fabr. A.-G. vorm. Didier),

(P.), B., 868. valve for (DEMPSTER & Sons and Toogood), (P.), B., 596.

horizontal, charging of (MATTHEWS and ALDRIDGE), (P.), B.,

gas and coke, continuous operation of (Stettiner Chamotte-FABR. A.-G. VORM. DIDIER), (P.), B., 273. ionising (HENRY), (P.), B., 392.

low-temperature distillation (Аввотт), (P.), B., 643.

oil-shale (Barnhart), (P.), B., 67. sectional, for retort kilns (Kent), (P.), B., 1.

silica, "spalling" in (REES), B., 523.

vertical (Trautmann), (P.), B., 468.

coke-extracting mechanism for (West, West, and West's GAS IMPROVEMENT Co.), (P.), B., 674.

for extraction of oil from bituminous solid facls (MENELL), (P.), B., 644.

Retort furnaces for roasting ores (BEAM), (P.), B., 449.

Revertex, production of (HAUSER), B., 148.

Rhamnetidin chloride (Robertson and Robinson), A., 1084. Rhenium. See Dvi-manganese.

Rhizopus, acids formed by (TAKAHASHI and ASAI), A., 596.

Rhizopus nigricans, fatty acids produced by, in relation to temperature (Pearson and Raper), A., 906.

Rhodamine dyes, acid, manufacture of (DURAND & HUGUENIN), (P.), B., 772.

Rhodeose, formation of, from d-galactose (FREUDENBERG and Raschig), A., 858.

Rhodium, Zeeman effect in are spectrum of (Sommer), A., 1119. colloidal, preparation of (Gutbier and Leutheusser), A., 933. Rhodium chlorides (DELÉPINE), A., 433.

chloronitrate, and its complex derivatives (Zvjaginstsev), A., 123

Hexachlororhodiates (Delépine), A., 433.

Rhodium determination :-

determination of (Ivanov), A., 1162.

Rhododendron hirsutum, constituents of leaves of (Feyertag and ZELLNER), A., 386.

Rhododendron Hunnewellianum (Chinese rhododendron), toxic principle from (Снои), A., 600.

Ribonolactone, and its tribenzoate (HASENFRATZ), A., 220.

Rice, storage of (Kondo), B., 151.

specificity of proteins in varieties of (Tadokoro), A., 384. Sco also Oryza sativa.

Rice-bran fat, phytosterols of (Nabenhauer and Anderson),

Rice fields, carbon-nitrogen ratio of soils in (Itano and Drakawa),

Rice-glutelin (Kondo and Hayashi), A., 268; (Kondo, Hayashi, and Matsushita), A., 269.

Rice kernels, nitrogenous constituents of, compared with those of other cereals (Jodidi), A., 800.

Rice starch. See under Starch.

Ricinoleic acid, oxidation of, with nitric acid (VERKADE), A., 447. Rickets (WILLS, SANDERSON, and PATERSON), A., 896.

infantile (Telfer), A., 896.

in rats (Karelitz and Shohl), A., 790; (Shohl and Bennett), A., 988.

Rings, formation of, in additive compounds (HIEBER and SONNEнацв), А., 1077.

Ring systems, condensed, formation of, by catalytic dehydrogenation (Zelinski, Titz, and Gaverdovskaja), A., 47. dicyclic, stereochemistry of (Hückel, Mentzel, Brinkmann,

and KAMENZ; HÜCKEL and FRIEDRICH), A., 238; (HÜCKEL and Stepf), A., 572.

heterocyclic, influence of groups and associated rings on stability of (Sircar), A., 451.

Ringer's solution, action of lead salts on (Brooks), A., 893. Rinkolite (Bonstedt, Nenadkevitsch, and Starynkevitsch-

Borneman), A., 129. Roads, production of material for making (HACK), (P.), B., 603.

bituminous emulsions for use in making of (UNIVERSAL RUBBER PAVIORS and PEACHEY), (P.), B., 655. bituminous material for surfaces of (BENNETT and HADFIELD),

(P.), B., 703.

mixtures for treatment of (Ekström), (P.), B., 110. treatment of, with dust-binding medium (NEDERL.-IND.

SPIRITUS MAAT., and JACOMETTI), (P.), B., 13. physico-chemical aspect of (BAUME), B., 843.

hardening of, containing silicates (Feret), B., 412.

tar or its compositions applicable for (CHILD), (P.), B., 724. distilled tar for (ADAM and ROBINSON), B., 37.

vulcanisation of tar for (MITTELDEUTSCHE HARTSTEIN-IND.), (P.), B., 808.

vertical-retort tar for (BARASH), B., 36.

unpaved, impregnation of (Allchemin Allgem. Ind. and LICHTENSTERN), (P.), B., 190.

Rochelle salt. See Tartaric acid, potassium sodium salt.

Rocks, iodine content of, in relation to incidence of goitre (WILKE-Dörfurt), A., 642.

Australian, analyses of (Aurousseau), A., 1165. corundum, of Val Sessera (MILLOSEVICH), A., 336. ('zechoslovakian, radioactivity of (Sebor), A., 87.

Norwegian, platinum in (LUNDE), A., 439.

quantitative microscopic analysis of (ALLING and VALENTINE), A., 846.

Rock salt, separation of native sodium salts from accompanying gangue in (STEIN), (P.), B., 906.

effect of temperature on refractive index of (Robertson and Fox), A., 607.

lattice constants of (BARTH and LUNDE), A., 611. electrolytic conductivity of (Braunbek), A., 1016.

blue, photo-electric effect in (HILSOH and OTTMER), A., 7. analysis of (TOELDTE), B., 106.

See also Sodium chloride.

Rodonites, composition and properties of (ALOISI), A., 1164. Roofing, corrugated asbestos cement (FIELD), (P.), B., 412.

materials for (FLINTKOTE CO., RAHR, and DRAKE), (P.), B., 444; (LUTYENS and CHILD), (P.), B., 781*.

Roots, effect of cosin on growth of (Boas), A., 388. Rosa canina, colouring matter from (KYLIN), A., 669. Rosa damascena, essential oil from (Gasoroulos), B., 505.

Roses, wax from (D'Ambrosio), A., 176.

Rose's metal, transformations of (Fleischmann), A., 195.

Rosemary oil (IMPERIAL INSTITUTE), B., 617.

borneol content of (MENDELSOHN), B., 796.

Rosilic acid (D'AMBROSIO), A., 176.

Rosin. See Colophony. Rosmarinus officinalis, essential oil from (GASOPOULOS), B., 506. Rotation and chemical constitution (CLARKE, KENYON, and PHILLIPS), A., 243.

anomalous magnetic and optical dispersion of (Peleiderer), A.,

of anisotropic systems (DE MALLEMANN), A., 610.

of optically active compounds, influence of solvents on (PATTERson and McAlpine), A., 295.

influence of concentration and hydrogen-ion activity on, of aqueous solutions (LIQUIER), A., 827

molecular, theory of (DE MALLEMANN), A., 8, 610.

Rouge, manufacture of (HESS and PITTSBURGH PLATE GLASS Co.), (P.), B., 409.

Rubber, structure of (Behre), B., 119; (Hauser), B., 148. Röntgon-ray structure of (HAUSER and ROSBAUD; HAUSER).

B., 148; (KATZ), B., 532; (HAUSER, HÜNEMÖRDER, and ROSBAUD), B., 789.

and latex, Röntgen-ray diffraction patterns from (Clark), A.,

spiral structure of (FEUCHTER), B., 564. microscopy of (Dannenberg), B., 119.

electrodeposition of (Sheppard, Eberlin, and Kodak, Ltd.). (P.), B., 82*; (Sheppard), B., 852. on materials (KODAK, LTD., SHEPPARD, and EBERLIN), (P.),

on metals (Fritz), B., 193.

electrophoretic deposition of, from its dispersions (ANODE Rubber Co.), (P.), B., 853.

and latex from young trees (RIEBL), B., 662. formation of, by polymerisation (KATZ, SELMANN, and HEYNE),

B., 610. manufacture of (BECKMANN), (P.), B., 119; (SCHIDROWITZ and VULTEX, LTD.), (P.), B., 341

dry, from latex (Cohen), (P.), B., 120*.

manufacture of compounding ingredients for (BARRETT Co. and COWDERY), (P.), B., 341.

modifications in technology of, resulting from applications of the antioxygenic theory (Dugué), B., 756.

treatment of (Whittelsey, Bradley, and Naugatuck Chemical Co.), (P.), B., 120; (Reel and Gen. Rubber Co.), (P.), B., 229; (Bruson and Goodyear Tire & Rubber Co.), (P.), B., 610.

precipitation treatment of (O'BRIEN and GOODYEAR TIRE & RUBBER Co.), (P.), B., 533.

apparatus for grinding (GARDNER), (P.), B., 689.

mixing machine for (FARREL FOUNDRY & MACHINE Co.), (P.),

mastication of (Dunlop Rubber Co., Young, and Burr), (P.),

softening of (HALL), (P.), B., 229. with resin oils (HEBLER), B., 119.

solid compounding ingredients as softeners for (Hurlston), B., 149.

oxidation of (Leon and Lister), B., 788; (Kirchhof), B., 789. vulcanisation of (Wiegand), B., 19; (Carson and Goodyear Time & Rubber Co.), (P.), B., 52; (I. G. Farbenind.), (P.), B., 230, 305; (Weiss and Dovan Chemical Corp.), (P.), B., 305; (Sebrell and Goodyear Tire & Rubber Co.; MILLER and FAULTLESS RUBBER Co.), (P.), B., 306; (RUBBER SERVICE LABORATORIES Co., NORTH, and CHRISTEN SEN; GOODYEAR TIRE & RUBBER Co., BOORD, and COOLIDGE), (P.), B., 393; (CRONSHAW, NAUNTON, and BRITISH DYESTUFFS CORP.), (P.), B., 452; (SHEPARD, KRALL, and FIRESTONE TIRE & RUBBER Co.), (P.), B., 534*; (CHEM. FABR. KALK and OEHME), (P.), B., 824; (Burrage), (P.), B., 948*.

theory of (Kirchhor), B., 635. with accelerators (ELLEY and DU PONT DE NEMOURS & Co.), (P.), B., 120.

and its acceleration (BEDFORD, GOODRICH Co., and GOOD-YEAR TIRE & RUBBER CO.; DU PONT DE NEMOURS & Co.). (P.), B., 150; (Sebrell and Goodyear Tire & Rubber Co.; NORTH and RUBBER SERVICE LABORATORIES Co.; Molony, Nikaido, Brown, Clause, and Pitcairn; TEPPEMA and GOODYEAR TIRE & RUBBER Co.; GRASSELLI CHEMICAL Co., WILLIAMS, and BURNETT), (P.), B., 789.

Rubber, vulcanisation of, accelerators for (Sebrell and Goodyear TIRE & RUBBER Co.), (P.), B., 52; (Scott and Rubber SERVICE LABORATORIES Co.), (P.), B., 52, 885; (BRITISH DYESTUFFS CORP., CRONSHAW, and NAUNTON), (P.), B., 230; (DU PONT DE NEMOURS & Co.), (P.), B., 824; SCOTT and Du Pont de Nemours & Co.), (P.), B., 853; (North and Rubber Service Laboratories Co.), (P.), B., 885; (ELLEY, Powers, and Du Pont de Nemours & Co.), (P.), B., 917; (SILESIA VER. CHEM. FABR.), (P.), B., 948. theory of action of (SCHOLZ; DANNENBERG), B., 564. coefficients of, for accelerators (HARDMAN and WHITE), B., 823 under fluid pressure (FRITZ and GOODRICH Co.), (P.), B., 372. steam pressures and temperatures in (Esch), B., 635. addition of fatty acids in (SMITH and BOONE), B., 340. influence of butaldehyde-ammonia in (HALLAS and DRAKE-LEY), B., 419. with p-nitrophenol (STEVENS), B., 197. by sulphur (Boiry), B., 610. by sulphur chloride vapour (DITMAR), B., 149. effect of vulcanisation accelerators on pigments of (DITMAR), B., 533. mixtures of, with vulcanisation accelerators (FISCHER), (P.), B., 260. devulcanisation of (ROYER), (P.), B., 372. polymerisation of (BARY and FLEURENT), B., 586. measurement of abrasion resistance of (WILLIAMS), B., 635. aqueous dispersions of (PRATT and RESEARCH, INC.), (P.), B., 306*. adsorption of water by (Lowry and Koiman), A., 199. solvents for (Twiss), B., 341. solutions, production of (Fraser, Rissik, Fraser & Co., and SHAW & Co.), (P.), B., 19. action of ultra-violet light on, in presence of yellow phosphorus (Kirchhof), B., 148. sols, volume changes in formation of (GIBBONS and HAZELL), A., 413. etching of (Sardou), (P.), B., 229. comparative experiments with gas-black and lamp-black in (SCHIDROWITZ), B., 885. lamp-black in (VAN ROSSEM and VAN DER MEYDEN), B., 635. compound of cellulose and (OGDEN), (P.), B., 248, 599*. density and electrical properties of compounds of, with sulphur (McPherson; Curtis, McPherson, and Scott), B., 916. hydrocarbons from, and their compounds with metallic halides (Bruson, Sebrell, and Calvert), B., 823. with capillary pores for applying liquids (Beekmann), (P.), B., effect of softeners on ageing of (BURBRIDGE), B., 149. coagulated with formic acid, ageing properties of (RIEBL), B., 885. mould on (DE VRIES), B., 885. deterioration retarder for (Cadwell and Naugatuck Chemical Co.), (P.), B., 452. reclaiming of (Winkelmann), B., 19; (Fessler), (P.), B., 534; (CAMPBELL and AMERICAN GLUE Co.), (P.), B., 790; (MILLER), (P.), B., 824. regeneration of (DANIER), (P.), B., 635. regenerated, classification and testing of (Alexander), B., 229. fillers for (STAMBERGER), B., 708. mixing soluble fillers with (CAMPBELL and AMERICAN GLUE Co.), (P.), B., 790. sedimentation analysis of fillers for (EVERS), B., 229. effect of "unspulun" on properties of (Spoon), B., 393. combination of halogenated materials with (BRADLEY, GIBBONS, and NAUGATUCK CHEMICAL Co.), (P.), B., 534. manufacture of finely-divided substances from natural emulsions of suspensions of (BATAAFSCHE PETROLEUM MAAT-SCHAPPIJ and MOSER), (P.), B., 948. impregnation of materials with (NUNN), (P.), B., 52. production of elastic, waterproof, and adherent coatings of (QUITTNER), (P.), B., 420. preparation of plastics from (McGAVACK and REVERE RUBBER Co.), (P.), B., 885. heat-plastic materials from (FISHER and GOODRICH Co.), (P.), B., 85*; (GOODRICH Co. and GRAY), (P.), B., 610. manufacture of resin from (FISHER and GOODRICH Co.), (P.).

vellow ink for marking (Cashion), B., 147.

in submarine insulation (WILLIAMS and KEMP), B., 149.

Rubber, determination of hydrocarbons in (KEMP), B., 372. determination of sulphur in (KAHANE), B., 532, 823. See also Caoutchouc. Rubber, artificial, manufacture of (VILLA), (P.), B., 790. ball (DE VRIES and SPOON), B., 372. Hevea, influence of resin of, on vulcanisation and ageing (WHITBY and GREENBERG), B., 19. isolation of natural exidation inhibitors of (Bruson, Sebrell, and Voct), B., 884. liquefied crude, manufacture of (BUTLER), (P.), B., 757. manufactured, determination of sulphur in (GRAFFE), B., 885. matured, nature of (BRUNI and LEVI), B., 532. nitrated (FISHER and GOODRICH Co.), (P.), B., 149. plantation, variation in (EATON and BISHOP), B., 948. Ceylon, variation of grades of (CEYLON RUBBER RESEARCH), B., 852. standard, preparation of (Jones), B., 51. raw, method of uniting leather to (ENNA), (P.), B., 229. determination of moisture in (Armstrong and Drakeley), B., 610. raw and vulcanised, ageing properties of (Martin), B., 341. scrap, reclaiming of rubber and fabric from (HERCULES POWDER Co. and SMITH), (P.), B., 917. slab, effect of heating on (Spoon), B., 393. smoked sheet, preparation of, with dinitro-o-cresol (STEVENS), sponge, manufacture of (North and Rubber Service Labor-ATORIES Co.), (P.), B., 19. stretched, anisotropy of (FEUCHTER), B., 119. fusion line of, and its density (FEUCHTER), B., 148. synthetic, fibre structure of (Hock), B., 564. removal of liquid polymerides from (I. G. FARBENIND.), (P.), B., 372. vulcanised, production of (ELLEY, Powers, and Du Pont de NEMOURS & Co.), (P.), B., 917. apparatus for recording hardness of (DUNLOP RUBHER CO. and Simpson), (P.), B., 150. micrographic studies of (REGNAUD), B., 884. devulcanisation of (WILLARD), (P.), B., 19. regeneration of (Soc. ITAL. PIRELLI; CARLSSON), (P.), B., 757. determination of free carbon in (KAHANE), B., 51. transparent, use of magnesium carbonate in production of (TANAKA), B., 341. cold-vulcanised, soya-bean oil for softening and increasing the stretch of (DITMAR), B., 51. Rubber articles, manufacture of (RUBBER LATEX RES. CORP.), (P.), B., 790. finishing of (CANDEE & Co.), (P.), B., 757. vulcanisation of (New Liverpool. Rubber Co. and Amende), (P.), B., 917. Rubber compositions (BIDDLE and UNITED PRODUCTS CORP. OF AMERICA), (P.), B., 85*; (ACHESON), (P.), B., 372; (DYCHE-TEAGUE), (P.), B., 452. with bitumen (CAMPBELL), (P.), B., 149. Rubber compounds, use of selenium in (Boggs and Follansber), B., 149. age-resisting (Bridgewater, Powers, and Du Pont De NEMOURS & Co.; ELLEY and DU PONT DE NEMOURS & Co.), (P.), B., 534. Rubber goods, manufacture of (Fraser), (P.), B., 306; (Anode RUBBER Co., KLEIN, and SZEGVÁRI; ANODE RUBBER Co.; SIMPLEX WIRE & CABLE Co., Boggs, and Blake), (P.), B., 533. vulcanised products for (KAYE), (P.), B., 565. preservation of (PORRITT, DAWSON, and RESEARCH ASSOC. OF BRITISH PUBBER & TYRE MANUFRS.), (P.), B., 636. soft, ageing of (Tenen, Smith, and Holt), B., 788. surface-finished, production of (EMERY and ARCHER RUBBER Co.), (P.), B., 610. Rubber industry, colloid problems of (STAMBERGER), B., 708. Rubber latex, X-ray structure of unstretched films of (CLARK, ABORN, BRUGMANN, and DAVIDSON), A., 924. revertex process for (HAUSER), B., 148. treatment of (BIDDLE and UNITED PRODUCTS CORP. OF AMERICA), (P.), B., 120; (WESCOTT), (P.), B., 610*; (CAD-WELL and NACGATUCK CHEMICAL Co.), (P.), B., 824. concentration of (K. D. P., Ltb.), (P.), B., 52, 306. purification of (Hopkinson, Chemical Co.), (P.), B., 799. GIBBONS, and NAUGATUCK

Rubber latex, preservation of (JURY, SMITH, and GEN. RUBBER Co.), P.), B., 372, 420. colloid chemistry of (HAUSER and SCHOLZ), B., 947.

coagulation of (PETERSEN and KELLY-SPRINGFIELD TIRE Co.), (P.), B., 229; (DE VRIES and BEUMÉE-NIEUWLAND), B., 372. lining plates for coagulating tanks for (Kellitt, (P.), B., 610. concentration of globuloids in (STUTCHBURY, BACHMANN,

HEBLER, and BÖHM v. BÖRNEGG), (P.), B., 948. thickening of (TEAGUE and AMERICAN RUBBER Co.), (P.),

B., 5653

vulcanisation of (Schidrowitz), B., 610.

production of homogeneous deposits from (ANODE RUBBER Co.), (P.), B., 533.

water-soluble evaporation product from (STUTCHBURY, BACH-MANN, and HEBLER), (P.), B., 229.

mixing substances with (HOPKINSON and NAUGATUCK CHEMICAL Co.), (P.), B., 120*. compositions of (BIDDLE), (P.), B., 852.

manufacture of moulded articles from (McGAVACK and NAUGA-TUCK CHEMICAL Co.), (P.), B., 565.

ammoniated, rubber content of (Bishop), B., 341.

frozen, proteins in (BISHOP), B., 532.

preserved (DE VRIES and BEUMÉE-NIEUWLAND), B., 884. manufacture of articles from (DITMAR), B., 564.

Hevea, preserved rubber from (Bishop), B., 948.

Rubber materials, sponge (FEATHEREDGE RUBBER Co.), (P.), B., 790.

Rubber mixtures, production of (METALLBANK & METALLURGISCHE GES.), (P.), B., 853

Rubber plants, flow of latex from (ZIMMERMANN), B., 635.

Rubber products, manufacture of (VAN DER MARK and KREMER), P.), B., 452.

Rubber seed oil, industrial application of (DITMAR), B., 885. Rubberised fibre compositions, manufacture of (GILLET and

GOODYEAR TIRE & RUBBER CO.; CHARLESON and GOODYEAR Tire & Rubber Co.), (P.), B., 52; (O'Brien and Goodyear Tire & Rubber Co.), (P.), B., 70.

Rubberised materials, manufacture of (GENERAL RUBBER Co. and Teague), (P.), B., 948.

liner for (Endres and Goodyear Tire & Rubber Co.), (P.), B., 52.

Rubberproofing, dyeing of cloth for (Hockney and Bancroft), B., 362.

Rubiadin, structure of (Stouder and Adams), A., 972.

Rubichloric acid, identity of, with asperuloside (HÉRISSEY), A., 386.

Rubidium, preparation of (DE BEER, CLAUSING, and ZECHER), A., 328.

flash are spectrum of (Newman), A., 178.

from lepidolite and zinnwaldite, radioactivity of (IIMORI and Yoshimura), A., 86.

in electric discharge tube (N.V. Phillips' Gloeilampenfabr.), (P.), B., 226.

reaction of, with carbon (FREDENHAGEN and CADENBACH), A., 218.

Rubidium salts, reaction of, with calcium ferrocyanide (DEL FRESNO and VAZQUEZ), A., 430.

Rubidium azidodithiocarbonate (BROWNE, AUDRIETH, Mason), A., 430.

cupric chloride dihydrate, crystal structure of (HENDRICKS and Dickinson), A., 1013.

halides, adsorption of, by charcoal (SCHILOV and TSCHEPELE-VETSKI), A., 929.

gold iodides (Burkser, Rublov, and Scharnovsky), A., 1155. nitrate, equilibrium of silver nitrate and (PALKIN), A., 939. hexachlororhodiate (Delépine), A., 433.

hexabromostannate (Costeanu), A., 741.

neodymium sulphate (Zambonini and Caglioti), A., 842.

Rubidium organic compounds:-

Rubidium chloride, double salt of cocaine and (PACE), A., 265. triphenylmethyl, and its additive compound with zinc ethyl (v. Grosse), A., 46.

Rubidium determination and separation :-

determination of, microchemically (Burkser and Rublov), A., 1161.

separation of, from easium and potassium (Moser and Rit-SCHEL), A., 222.

Ruby, colour of (STILLWELL), A., 8.

Ruflopin, structure and synthesis of (Puntambeker and Adams), A., 362.

Rust. See Tilletia tritici.

Rutæcarpine, synthesis of (Asahina, Manske, and Robinson), A., 982.

Ruthenium (Howe), A., 1157.

valency of (Zintl and Zaimis), A., 533.

wave-lengths of lines in spectrum of (LORING), A., 179.

Ruthenium dibromide and dichloride (GALL and LEHMANN), A., 123.

chloride, preparation of, from its elements (Remy and Wagner), A., 34; (Manchot and Könic), A., 123.

reduction of, by sodium amalgam (Remy and Wagner), A., 328.

disulphide (DE Jong and Hoog), A., 533.

Chlororuthenites (Howe), A., 1157.

Cyanoruthenites (Krauss and Schrader), A., 951.

Ruthenium determination :-

determination of, volumetrically (Howe), A., 1162.

Rutile, crystal structure of (Huggins), A., 1015.

Rye, mutase in (KLAR), A., 907.

Rye germs, vitamins in (Scheunert), A., 595.

Saccharic acid, and its disodium salt, bismuthyl compounds of (Browning, Cohen, Gulbransen, Phillis, and Snodgrass), A., 855.

tricalcium salt, preparation of (Steffen), (P.), B., 234, 454. ferric salt, manufacture of (Chemnitius), B., 265.

lactone. See Saccharine.

Saccharimeter, 100° point of (Spengler, Brendel, and Schwir-

BLIANSKI), B., 730.

"Saccharin" (o-benzoicsulphinide), drying of (Belani), B., 505. feeding tests with additions of (JAGODA), B., 668. and its derivatives, sweetening power of (Oddo and Mingola),

A., 874. silver derivative of (Josephson), A., 1057.

detection of, colorimetrically (EKKERT), B., 92.

determination of, by the ammonia process (Lerrigo and WILLIAMS), B., 616.

Saccharine, isolation of, from beet molasses (VNUK), B., 730. Saccharinic acids (GLATTFELD and WOODRUFF), A., 1054. Saccharomyces, synthesis of proteins by (Effront), A., 794.

Saccharomyces Bruxellensis in lambic fermentation (VAN LAER), B., 953.

Saccharomyces sake, fission of starch by (Sjöberg), A., 279. Saffron, colouring matters from (KARRER and SALOMON), A., 571.

Safrole, isomerisation of (Nagai), A., 57; (Hirao), A., 353. isoSafrole, preparation of piperonal from (HIRAO), A., 57.

n- and o-Safroles, synthesis of, and their pentabromo-derivatives (Perkin and Trikojus), A., 871.

isoSafrole, 6-amino-, and its hydrochloride and derivatives, and 6-nitro- (Robinson and Zaki), A., 1184.

isoSafrole oxide, derivative of, with ammonia, and its salts (Krassovsky and Kusner), A., 1184.

Saggars, influence of wet grog on properties of (Konarzevski), B., 723.

Salal. See Gaultheria shallon.

Salicinase in leaves (Blagoveschenski and Sossiedov), A., 1111. Salicoylisatoic acid (Bogert and McColm), A., 1205.

Salicylaldehyde, compound of, with dimethylcyclohexanedione (Bernardi), A., 563.

condensation of, TRAMER), A., 972. with vanillylideneacetone (GLASER and

alkyl lactolides. See β -2-Oxidobenzyl ethers.

cyclohexylhydrazone and its hydrochloride (Busch and Linsen-MEIER), A., 455.

phenylcyclohexylhydrazone (Busch and Haase), A., 554. Salicyl-βββ-trichloro-a-hydroxyethylamide, and its acetyl deriv-

ative (KAUFMANN), A., 663. Salicylhydroxamic acid, derivatives of, and their Beckmann rearrangement (Scott and Mote), A., 1186.

Salicylic acid, purification of (Deutsche Gasglühlicht-Auer-

Ges.), (P.), B., 459. heat of combustion of (KEFFLER and GUTHRIE), A., 193;

(Berner), A., 315. heat of ionisation of, in methyl alcohol (Wolfenden, Jackson, and HARTLEY), A., 733.

Salicylic acid, catalytic hydrogenation of, with platinum oxide (DIAZ AGUIRRECHE), A., 1188. as a preservative for wines (Fonzes-Diacon and Laforce), B.,

25.

action of, on starfish eggs (Lillie), A., 696. copper salt, transport numbers of (HAMER and BURY), A., 315. mercury salt, determination of mercury in (Murray), B., 155; (Griffith and Ramanuskas), B., 457; (Jonesco-Matiu and Bordeianu), B., 891.

sodium salt, analysis of (Henville), B., 315.

phenyl ester (salol), manufacture of (MILLS and Dow CHEMICAL Co.), (P.), B., 172

uranyl methyl ester (Weinland and Hager), A., 358. chloralide of (Böeseken and Blok), A., 646.

detection of, in presence of digallic acid (Bordin), B., 27. determination of, in its salts (Clark), B., 266.

Salicylic acid, 5-nitro-, and its ethyl ester, crystallography of (CHATTAWAY and CURJEL), A., 98.

thio. Sec Benzoic acid, o-thiol.

5-thiol-3-chloro- (British Dyestuffs Corp., Saunders, and Mendoza), (P.), B., S.

β-Salicylglucoside, 5-chloro-, biochemical synthesis of (Delauney), A., 174.

Salicylhydroxamic acid, acetate of (LINDEMANN and SCHULTHEIS), A., 262

Salicylsulphonic acid as a reagent for proteins (Roche), A., 1105. Saliva, dogs', amylase content of (GALEIIR), A., 1104.

human, inorganic constituents of (CLARK and LEVINE), A., 987. influence of diet on constituents of (Clark, Shell, JOSEPHSON, and STOCKLE), A., 1104.

changes in reaction of (Clark and Carter), A., 788.

Salmonella, serological and biochemical tests on species of (Wokes and IRWIN), B., 569.

Salol. See Salicylic acid, phenyl ester. Salt. See Rock salt and Sodium chloride.

Salts, scattering of light by aqueous solutions of (SWEITZER), A.,

equivalent conductivity of solutions of, with reference to hydration of ions (DHAR), A., 113.

separation of, from their solutions (SIEMENS-SCHUCKERTWERKE Ges.), (P.), B., 937.

solubilities of two, in a volatile solvent (Tourneaux and Pernot), A., 406.

complex, physical chemistry of (HAMER and BURY), A., 315. olectron configuration of (NENITZESCO), A., 610.

fused, electrochemistry of (Blikslager), A., 735. contact potentials of (LORENZ), A., 1144.

double decomposition in mixtures of (BERGMAN), A., 14. hydrated, dehydration of (RAKUZIN and BRODSKI), B., 875. inorganic, balance of, in the body (STRANSKY), A., 74. solid immiscible, interdiffusion of (Tubandt and Jost), A.,

1020.

See also Metallic salts. Salt deposits, Malagash, Nova Scotia (Ellsworth), A., 129.

Salt hydrates, equilibrium pressures of (Norton and Johnston), A., 103.

dehydration of, with acctic anhydride (Schoorl), A., 124. Salt solutions, thermodynamics of (HARNED), A., 1028.

mixed, biochemistry of (HARPUDER), A., 589. neutral, production of acidity in (ACHAR and USHER), A., 931.

physiologically equilibrated, action of (Rubinstein), A., 375. Salting out, dynamics of (HAFNER), A., 1021.

Saltpetre. See Potassium nitrate.

Chili. See Sodium nitrate.

Salvarsan (arsphenamine; diaminodihydroxyarsenobenzene hydrochloride), preparation of solutions of (LOWY and STENECK Trust Co.), (P.), B., 380.

Samarium, mixed phosphors of (RUMPF; TOMASCHEK), A., 1125. Samarous chloride (JANTSCH, RÜPING, and KUNZE), A., 530.

Samarium sulphide (KLEMM and ROCHSTROH), A., 842. Sambnein, and its chloride (KARRER and WIDMER), A., 253. Samia cecropia, 3:4 dihydroxyphenylalanine in cocoons of

(Przibram and Schmalfuss), A., 987. Samples, contamination of, ground in iron mortars (HACKL), B.,

Sands, washing machines for (BRUN & CIE.), (P.), B., 13.

diameters of crushed particles of, lifted by air currents (MARTIN), B., 623.

crushed, air elutriation and grading of (MARTIN and WATSON; MARTIN, BOWES, COLEMAN, and LITTLEWOOD), B., 543.

Sands, moulding (STOLL), (P.), B., 848.

determination of moisture content of (McIlvaine), (P.), B.,

quartz, density of, on grinding (Martin, Watson, and Bowes), B., 623.

Santenin, and its derivatives (MEDVEDEV), A., 1194.

Santeninic acid, and its derivatives (MEDVEDEV), A., 1194.

Santonin, oxidation of (Medvedev), A., 1194. colour reactions of (EKKERT), A., 972.

microchemical examination of (VAN ZIJP), B., 315. detection of, histochemically (Herndlhofer), A., 387.

d-Santonous acid (Bertolo), A., 150.

Saponification, methods of (Bergell), B., 49.

use of isopropyl alcohol in determination of (Schuette and HARRIS), B., 118.

Saponin, improvement of stability and cleansing power of (Christen), (P.), B., 851.

Saponins (VAN DER HAAR), A., 248, 341.

occurrence of, in plants (LUFT), A., 388. Sapphire, colour of (STILLWELL), A., 8.

Saprolegnia, antagonism of hydrogen and calcium in development of (Lilienshtern), A., 1225.

Saproporphyrins (Schumm), A., 986.

Sapucainha, constituents of oil from (DA SILVA), A., 995.

Sarcoma, Rous chicken, glutathione in (YAOI and NAKAHARA), A.,

Sarcosinemethylanilide picrate (Wessely and John), A., 655. Sardine. See Sardinia corrulea.

Sardine oil, California, iodine number of (DUNN and HOLLOMBE), B., 585.

Japanese, unsaturated acids of (Tsujimoto), B., 18. Sardinia carulea (sardine), nitrogen distribution and amino-acids in (Dunn), A., 69.

Sarothamnus scoparius (broom), blackening of pods of (SCHMAL-FUSS, BARTHMEYER, and BRANDES), A., 1226.

Surraceniacew, North American (HEPBURN; Jones and HEP-BURN; HEPBURN and St. JOHN; HEPBURN, St. JOHN, and Jones), A., 1226.

Satin white (Fredriksson and Kalbfleisch Corp.), (P.), B., 609. Sauerkraut, variations in chemical composition of (Peterson, FRED, and VILJOEN), B., 890.

Sausages, manufacture of artificial skins for (SAMUEL), (P.), B., 171. cellulose casings for (HENDERSON and DIETRICH), B., 57. black, artificial colouring matter from skins of (Merl), B., 122. influence of binding material on detection of added water in

(WILLEKE and JUNKER), B., 712. Sawdust, preparation of sugar from (HAGGLUND), B., 137.

irradiated, antirachitic activity of (Rosenheim and Webster), A., 79.

Saxifraga crassifolia. See Badan.
Scale, prevention of formation of (CREIGHTON and ANTI-SCALE CORP.), (P.), B., 168.

Scammonic acid, hydrolysis of (VOTOČEK and VALENTIN), A., 752. Scandium, atomic weight of (SMITH), A., 806.

arc and spark spectra of (McLennan and Liggett), A., 390. doubly-ionised, spectrum of (SMITH), A., 389.

analogies of, with other tervalent elements (Urbain and SARKAR), A., 1010.

reaction of, with "aluminon" (Corey and Rogers), A., 219. Scarlet fever, antigen for (LARSON), (P.), B., 317.

production of toxin and antitoxin for (G. F. and G. H. Dick), (P.), B., 237.

Scattering coefficient for short waves (STRATTON), A., 607.

Scheele's green, electrochemical preparation of (Bruns), B., 947. Schiff's bases, influence of substituents on the stability of (LANG-MAN, HEALY, and DUTT), A., 768.

Schultenite from South-West Africa (Spencer), A., 225. Schwarzschild effect of photographic plates (Lüppo-Cramer), B.,

714, 715.

Schweinfürth green, evaluation of (Köszegi and Gerö), B., 863. Scleron (SCHEUER), B., 168.

determination of lithium in (SCHÜRMANN and BÖHM), B., 818. Scleron metal (Anon.), B., 880.

Scoparin, and its salts and derivatives (HEMMELMAYR and STREHLY), A., 248.

ψ-Scopine, and its salts and derivatives (Polonovski and Polo-NOVSKI), A., 888.

Scopinium salts (Polonovski and Polonovski), A., 888. Scopoline oxide, and its salts (Polcnovski and Polonovski), A.,

1208.

Scorzonera hispanica, constituents of latex of (Zellner), A., 598. Screens, for separating or sorting coals, minerals, etc. (Lowson and Lowson, Ltd.), (P.), B., 696.

rotary, for separating various sizes of ore, coal, etc. (Dunsmore

and RITCHIE), (P.), B., 690.

Screening constants, calculation of (PAULING), A., 88.

from optical data (LAPORTE), A., 601.

Sculpin, blood-sugar of, during asphyxia (Menten), A., 476. Scurvy, iron in organs and blood during (RANDOIN and MICHAUX), A., 994.

weight of organs in (Brouwer), A., 905.

Seals, liquid (Sharples Specialty Co.), (P.), B., 321.

Sea-slug. See Stichopus japonicus.

Sea-urchin, eggs of. See under Eggs. Sea water. See under Water.

Seaweeds, mucilaginous extracts of (HAAS and RUSSELL-WELLS), A., 80.

See also Algæ.

Secale cornutum, oil from. See Ergot oil.

Sedimentation, determination of (CALBECK and HARNER), B., 127. Seeds, method of inducing growth of (Zellweger), (P.), B., 422. electrical treatment of (Bennett), (P.), B., 826.

dressing of (FARBW. VORM. MEISTER, LUCIUS, & BRÜNING), (P.),

B., 88. separation of (Warren and Warren Seed Cleaning Co.), (P.), B., 121.

catalase activity of (GRACANIN), A., 384.

distribution of phosphorus compounds in (Koehler), A., 798. activation of zymase in (ZALESKI, NOTKINA, and PISARSHEVSKI),

effect of fertilisers on germination of (Maxton), B., 498.

disinfectants for (ENGELMANN, ALBRIGHT, and DU PONT DE NEMOURS & Co.; ENGELMANN and DU PONT DE NEMOURS & Co.), (P.), B., 374.

materials for pickling of (KREIDL), (P.), B., 919.

preservation of, from pests (SACCHARIN-FABR. A.-G. and Klages), (P.), B., 792.

oil, determination of oil content of (Brackman), B., 945.

vegetable, extraction of oil from (Downs and Bellwood), (P.), B., 915.

determination of free fatty acid of oil in (Brodie, Cox, and Hutchins), B., 945.

Selenium, absorption, fluorescence, and resonance spectra of (Rosen), A., 608.

are spectrum of (McLennan, McLay, and McLeod), A., 999. fluorescence spectrum of (McLennan, Walerstein, and GRAYSON-SMITH), A., 292.

line absorption spectrum of (KIMURA), A., 601. spark spectrum of (L. and E. Bloch), A., 1117.

photomagnetic effect in (Hears), A., 1131.

red crystalline, preparation, refractivity, and dielectric constant of (Kyropoulos), A., 189.

colloidal, production of (GUTBIER, OTTENSTEIN, and LOSSEN), A., 620.

use of, in rubber compounds (Boggs and Follansbee), B., 149. Selenium compounds, bactericidal and fungicidal action of (STOVER and HOPKINS), B., 374.

Selenium tetrafluoride and oxyfluoride (PRIDEAUX and Cox), A., 532.

dioxide, colour of (MEYER and LANGNER), A., 220; (WELLER), A., 432; (MEYER), A., 532.

trioxide, preparation of (MEYER and PAWLETTA), A., 532. sulphide, detection of mercury vapour with (NORDLANDER), B.,

415. Selenium organic compounds (BOGERT and STULL), A., 983.

preparation of, by Friedel-Crafts reaction (Lyons and Bradt),

Selenium chloride, double salt of cocaine and (PACE), A., 265. Selenium detection and determination :-

detection and determination of (FALEIOLA), A., 952.

determination of, volumetrically, and tellurium (LITTMAN), A., 534.

determination of, in organic compounds (Shaw and Reid), A., 1101.

α-Selenobenzoic acid (Μινασιλ), Α., 147. Selenoketones (Lyons and Bradt), A., 449.

Semicarbazide, reaction of, with thiocarbimides (Rosenthaler), A., 451.

thio-, and its derivatives, action of aromatic amines on (Macurevitsch), A., 777, 1061.

Semicarbazides, thio-, action of carbamide on (Guna and Sen), A., 784.

B-Semiearbazidoethane, a-nitro-, and a-nitrothio- (WORRALL), A., 761.

 β -Semicarbazinopropionic acid (Rinkes), A., 652.

Semicarbazones, action of hydrazines on (BAIRD and WILSON), A., 1063.

Semicarbazones, thio- (Bose and Chaudhury), A., 769. reactions of (Baird, Burns, and Wilson), A., 1176.

Semipinacolic transformations (TIFFENEAU and LEVY), A., 153; (LÉVY and WEILL), A., 880.

Separation apparatus, wet (SPROUL), (P.), B., 690.

Separators (Fullerton, Hodgart, and Barclay, Ltd., and Aston), (P.), B., 128; (Plath), (P.), B., 176; (Davidson; Campbell), (P.), B., 432; (Bachmann and Dorr Co.; GRAEFE; AKTIESELSKAPET KRYSTAL), (P.), B., 463.

for liquids (Tracy Engineering Co.), (P.), B., 241.

for filtering liquids from materials (Lever Bros., Ltd., and CLOUDSLEY), (P.), B., 129.

for removing oil from hot vapours (Sterling), (P.), B., 32. centrifugal (Green and Ogden), (P.), B., 32; (Empson), (P.), B., 32, 64; (Fesca; Mortensen), (P.), B., 128; (Grimble,

CAIRD, and COOMES), (P.), B., 128, 433; (SVENSSON and NORLING), (P.), B., 241, 287; (THOMSEN and KOEFGER) Hauberg, Marstrand, & Helweg Aktieselskab. Titan), (P.), B., 400*; (UNION A.-G. FÜR METALLIND.), (P.), B., 432; (METCALFE), (P.), B., 623; (COLEMAN), (P.), B., 726; (BRITISH SEPARATORS and CAHILL), (P.), B.,

800; (STURGEON), (P.), B., 929*. driving device for (AKTIEBOLAGET SEPARATOR), (P.), B., 624. drums for (Svensson and Norling), (P.), B., 128.

connexions for spouts of (AKTIEBOLAGET SEPARATOR), (P.),

B., 545. timing devices for (Alliott and Manlove, Alliott & Co.),

(P.), B., 321. cyclone (Wood), (P.), B., 32: (Robinson & Son, Robinson, and Robinson), (P.), B., 671.

oil and gas (Bell; LORRAINE), (P.), B., 323.

screen (STURTEVANT and STURTEVANT MILL Co.), (P.), B., 352. Sepiamelanin, preparation of, from sepiamelanic acid (ADLER), A., 696.

Sericin (ALDERS), A., 582.

and sericin-peptone, preparation and properties of (Kodama),

Sericite-lazulite, from Bolivia (Shannon), A., 1050. Serpentine from Liubotina, Banat (SAVUL), A., 1164.

Serum, fixation of bile salts by (Donelly and Mitchell), A.,

diffusible and non-diffusible calcium of (Liu), A., 985.

calcium phosphate in (Dolhaine), A., 67.

action of hexosephosphoric acids on (NEUBERG and KOBEL), A., 652

effect of hydrogen-ion concentration on osmotic pressure of proteins of (MARRACK and HEWITT), A., 1103.

female and male, decolorisation of light-green by (VAN DYKE and Schurmeyer), A., 370.

infants', distribution of alkalis in (v. Bókay), A., 896. human, bilirubin content of (Sivó), A., 1214.

action of nickel on (SIEGLER), A., 587.

immune (Larson), (P.), B., 317.

rabbits', variation of calcium in (CULHANE), A., 904. determination of non-protein nitrogen in (Peano), A., 585.

Serum-albumin. See under Albumin.

Sesamum indicum (sesame), proteins of seeds of (Jones and GERSDORFF), A., 1227.

Sesseralite (MILLOSEVICH), A., 336.

Sewage, treatment of (LOVETT), (P.), B., 430.

apparatus for, by activated sludge in combination with sludge digestion (Імногг), (Р.), В., 926.

purification of, by the activated sludge method (SIERP), B., 93. varying the circulation of sludge in (MILLS, BOLTON, BOLTON, and AMES), (P.), B., 862.

rôle of iron in activated sludge process for (Wolman), B., 270. characteristics of sludge from (Neave and Buswell), B., 269. effect of temperature on digestion of sludge from (Rudolfs),

hydrogen-ion control in digestion of sludge from (Coburn), B., 269.

dewatering, compressing, and drying of solids of (Manning), (P.), B., 62.

Sewage, circulation and aeration of (AMES, BOLTON, and MILLS), (P.), B., 30. oxidation of, by hydrogen peroxide (Cooper and Read), B., 381. oxygen demand of (Keeper and Regester; Greenfield, ELDER, and McMurray), B., 94. disposal of (Derleth and Celite Co.), (P.), B., 350; (Butler

and Coste), B., 381. reduction of foaming of, by chlorination (Cohen), B., 381. fresh, decomposition of cellulose in solids of (HEUKELEKIAN),

B., 766.

town, manuring with (ZIELSTORFF and KELLER), B., 791. analysis of (Johnson), B., 318.

dissolved oxygen absorption test for (Cooper and Read), B., 381.

determination of nitrogen in (Neave and Buswell), B., 382. determination of organic matter in (Abbott), B., 766. Sewage effluents, efficiency of chlorination of (TIEDEMAN),

B., 574. dissolved oxygen absorption test for (Cooper and Read),

B., 894. Shaffer-Hartmann reagent, effect of potassium iodide in (DE Long), A., 600.

Shale, furnace for utilisation of (Bergh), (P.), B., 245*.

oil-, origin of (Kocerman), B., 865.

treatment of (Trumble), (P.), B., 6; (Egloff and Universal Oil Products Co.), (P.), B., 673. distillation of (Davis, Wallace, and S.E. Co.), (P.), B., 162;

(LOUGHREY), (P.), B., 548.

distillation apparatus for (ABERNATHY), (P.), B., 403. lluorescence of low-temperature distillation products of (Wittlich), B., 865.

coking of (FINLEY and BAUER), B., 672.

Esthonian, economic importance of (Uhlmann), B., 809. Scottish, distillation of (KARRICK), B., 271.

from Tasmania (REID), B., 385. Shale oil, crude, distillation of, from shale (Sporz), (P.), B., 35. thiophen compounds in (Scheibler), B., 5.

Eislingen (NEUBRONNER), B., 737. Esthonian (KOGERMAN), B., 354, 865.

Shale retorts. See under Retorts.

Shale tar, Fushun, basic nitrogen compounds from (Equem), B., 696.

Shark, constituents of fins of (LIN), A., 168.

Shark liver oil, fatty acids of (TOYAMA and TSUCHIYA), B., 706.

Shark skins. See under Skins. Shea butter. See under Butter.

Sheet material, manufacture of (HILLS), (P.), B., 301.

Shell fish, arsenic in (Chapman), B., 25. lead in (Chapman and Linden), B., 25.

Shellac (NAGEL), A., 447.

blackening of (Watson and Mulany), B., 419.

solutions, darkening of, effect of metals and solvents on (GARDNER and LEVY), B., 684.

substitutes for (Scheiber and Noack), (P.), B., 148; (McIn-TOSH, WOLFORD, and DIAMOND STATE FIBRE Co.), (P.), B., 916.

artificial and bleached, water content of (BAUM), B., 147. orange, preparation of, in the wet way (LAN), (P.), B., 661. determination of colophony in (REINBECK), B., 496.

Sherardisation, apparatus for (Rustproof Processes and Trouton), (P.), B., 528.

Ship plates and rivets, corrosion of (BENNETT), B., 167.

Shivering reflex, effect of various substances in restoring the

(Cassidy, Dworkin, and Finny), A., 175. Shoe-creams, solvent for use in (I. G. Farbenind.), (P.), B., 956. Shogaol, synthesis of (Nomura and Tsurumi), A., 770.

Siccatives, determination of the metal content of (MÜLLER), B., 147.

Sikimitoxin from Illicium religiosum (CHOU), A., 600.

Siler trilobum, composition of essential oil of (Demianov and Williams), B., 956.

Silica. See Silicon dioxide. Silica bricks. See under Bricks.

Silica refractories. See under Refractories. Silica retorts. See under Retorts.

Silicic acid. See under Silicon.

Silicofluorides. See Fluosilicates under Fluorine. Silicon, pure, preparation of (Tucker), B., 444. preparation and properties of (Hölbling), A., 844. Silicon, separation of, from alloys (Wenger and Rogovine), A.,

spectrum of (Kichlu), A., 802.

band spectra associated with (CAMERON), A., 184. and its oxide, boiling points of (RUFF and KONSCHAK), A., 102. solubility of, in aluminium (Köster and Müller), B., 282. reactivity of (Roll), A., 121.

Silicon alloys with aluminium (CZOCHRALSKI; FUSS), B., 168; (GOLDSCHMIDT A.-G.), (P.), B., 448.

age-hardening, replacement of silicon by germanium in (KROLL), B., 632.

carbide-free (METALLBANK & METALLURGISCHE GES.), (P.),

with aluminium and calcium (Grogan), B., 281.

with aluminium and iron, constitution of (GWYER and PHILLIPS), B., 968.

with iron (MURAKAMI), A., 830.

with iron and carbon (Hanson), B., 782.

with magnesium (LAFFITTE), A., 219.

with silver, non-tarnishing, manufacture of (Corson and Electro Metallurgical Co.), (P.), B., 913.

Silicon carbide, production of articles containing (Siemens Gebr. & Co.), (P.), B., 723.

tetrachloride, density and coefficient of expansion of (Ronnson and Smith), A., 102.

surface tension of (MILLS and ROBINSON), A., 927.

use of, in preparation of acid chlorides (Montonna), A.,

fluoride, band spectrum of (Johnson and Jenkins), A., 1005. dioxide (silica), blowing and moulding of (QUARTZ & SILICE), (P.), B., 443.

moulding of (British Thomson-Houston Co. and Miller), (P.), B., 366.

thermal conversions of, and their importance in industry (STEINHOFF), B., 331.

fusing of (British Thomson-Houston Co. and Devers), (P.), B., 141.

fused, absorption spectrum of (Dreisen), А., 496.

transparency of, to ultra-violet radiations (TSUKAMOTO), A., 809.

influence of added substances on expansion and transformation of (Wood, Houldsworth, and Cobb), B., 441.

influence of iron oxide on inversion of (REES), B., 441. reversal of charge on, by salt solutions (MUKHERJEE and

IYER), A., 414. polymorphism of (GIBBS), A., 10.

adsorption of water by (NUTTING), A., 509. adsorption of acids by (Joseff), A., 107.

hydrated, interaction of, with neutral salts in relation to adsorption (Mukherjee, Ghosh, Krishnamurti, Mitra, and Roy), A., 107. gels (DE WAAL), B., 480.

electrokinetic potential of (GLIXELLI and WIERTELAK), A., 1139.

structural changes on heating (PATRICK, FRAZER, and Rusu), A., 1138

adsorptive power of (Ruff and Mauther), B., 363. use of, in extraction of nitrogen oxides from ammonia

oxidation gas (KRASE), B., 10. desulphurisation of oils by (WATERMAN and VAN TUSSEN-

вкоек), В., 179. artificial and soil, differences in heat of reaction of, with

hydroxides (Bouyoucos), A., 414.

impregnated with carbon, sorptive capacities of (Fells and Firth), (P.), B., 135.

metallised (REYERSON, HARDER, and SWEARINGEN), A., 16; (REYERSON and SWEARINGEN), A., 198.

catalytic activity of (Morris and Reversor), A., 839, 1038.

equilibria of alumina, lime, and (HANSEN, DYCKERHOFF, ASHTON, and BOGUE), A., 519.

reactions in the solid state between sodium and barium

carbonates and (KRAUSE and WEYL), A., 841. composite of zirconium oxide and (KINZIE and TITANIUM ALLOY MANUF. Co.), (P.), B., 531.

removal of, from zinc, copper, and vanadium solutions (STEVENS, NORRIS, and WATSON), (P.), B., 701.

production of articles of (WATSON and GEN. ELECTRIC Co.), (P.), B., 332; (British Thomson-Houston Co. and Watson), (P.), B., 779.

456 Silicon dioxide (silica), treatment of articles of (British Thomson-Houston Co. and Herzog), (P.), B., 366. manufacture of glazed articles from (Quartz & Silice), (P.), B., 654. active, manufacture of (I. G. FARBENIND.), (P.), B., 481. anhydrous, containing clays (BIGOT), B., 253. vitreous, manufacture of (MILLER and GEN. ELECTRIC Co.), (P.), B., 523. thermal conductivity of (KAYE and HIGGINS), A., 12. compositions (Endres, Caldwell, and Celite Co.), (P.), determination of, in materials containing fluorine (STADELER), B., 414. Silicic acid, and its salts, acid properties of (KAPPEN and Breidenfeld), B., 9. dialysis of solutions of (Brintzinger), A., 111. production of colloidal solutions of (PRATORIUS and WOLF), (P.), B., 364, 481. gels, structure of, and condition of water therein (Fells and Гікти), А., 935. manufacture of (I.G. FARBENIND.; PRÄTORIUS and WOLF), (P.), B., 74. drying of (KRISHNAMURTI), A., 19; (FIRTH and FELLS), A., 110. adsorbability of (Mauther), B., 687. rhythmic bands of gold and platinum in (DAVIES and ŠIVERTZ), A., 18. as drying medium for air-blast (Lewis), B., 968. sols, preparation of sols of metal oxides and (Fodor and Reifenberg), A., 620. addition of hydrogen peroxide to (Fells and Firth), A., 531. action of, on plant growth (SOMMER), A., 1225. manufacture of water-soluble protein compounds of (v. Wülfing), (P.), B., 974. active, production of (RING GES. CHEM. UNTERNEHMUNGEN), (P.), B., 748. Silicic acids (Schwarz and Richter), A., 634. Silicates, structure of (Bragg and West), A., 501; (Bragg), A., 1015. production of (HERFELDT), (P.), B., 907. anomalous dispersion of solutions of (Frankenberger), A., immiscibility in melts of (GREIG), B., 440. base-exchange, manufacture of (Engel), (P.), B., 842. crystalline, formation of (IPATIEV and MOUROMTSEV), A., 1044. lithium-containing, treatment of, by means of neutral alkali salts (METALLBANK & METALLURGISCHE GES.), (P.), B., 842. zeolitic, ionic exchange of, with hydrolysable salts (KAPPEN and Rung), B., 364. electrometric precipitation of (Britron), A., 325. analysis of (Lassieur), B., 108. determination of, colorimetrically (ATKINS and WILSON), A., determination of aluminium in (STEINBRECHER), B., 141. determination of boric acid in (SCHMIDT), B., 189. determination of ferrous iron in (Sawer), B., 557. Silicon organic compounds (KIPPING), A., 267. Silicon determination :and its oxide, determination of, in aluminium (PRETTNER), B., 414. determination of, in ferrophosphorus (POND), B., 488. determination of, in ferrosilicon (Dougherty), B., 192; (Deutsch), B., 703; (v. Schwarz), B., 910. determination of, in iron and steel (VERFÜRTH), B., 255; (MAR-QUEYROL and TOQUET), B., 751. determination of, in steel and pig iron (STADELER), B., 526. determination of, colorimetrically, in tissues (Fourger), A., Silicon anodes. See under Anodes. Silk, dispersion and aggregation of, in salt solutions (v. WEIMARN), A., 309. method of recling off, from cocoons (Loewe), (P.), B., 138. dyeing of. See under Dyeing. effect of dry cleaning on (GOLDMAN, HUBBARD, and SCHOFF-STALL), B., 40. washing of (Duhamel and Comp. Gén. Ind. Textiles), (P.), B., 70.

Silk, degumming of (Wallerstein and Wallerstein Co.), (P.), B., 934. weighting of (Roscow), (P.), B., 9; (CLAVEL), (P.), B., 295; (ELÖD, TEICHMANN, and PIEPER), B., 407; (BERG and Імногг), (Р.), В., 599. hydrolysis of, by formic acid (Zelinski and Lavrovski), A., artificial (Trachsler; Cuprum S.A.), (P.), B., 185. transverse sections of (Kami and Nakashima), B., 438. manufacture of (Zdanowich), (P.), B., 103, 519*; (Spinnstoff-fabr. Zehlendorf; Hirasawa and Hoshino; LEUCHS), (P.), B., 165; (RUSHTON), (P.), B., 248; (SOC. FABR. SOIE RHODIASETA), (P.), B., 248, 472; (BRITISH ENKA ARTIFICIAL SILK Co. and N.V. NEDERLANDSCHE KUNSTZIJDEFABR.; JESSEN and ATLAS POWDER Co.), (P.), B., 328; (COURTAULDS, LTD., GLOVER, and TOPHAM), (P.), B., 472; (NIEDERHAUSER, SUNDERLAND, and VISCOSE Co.), (P.), B., 519; (SYNTHETA, A.-G.; MCKENZIE and VISCOSE Co.), (P.), B., 552; (DREAPER), (P.), B., 745. by the dry-spinning process (COURTAULDS, LTD., SHEDDEN, DELPH, and BAGULEY), (P.), B., 964. from cellulose or cellulose compounds (Wolff & Co., Czapek, and Weingand), (P.), B., 699. from cotton rags (Umbach), (P.), B., 904. treatment of water for use in (BRYSILKA, LTD. and SCHUBERT), (P.), B., 126. preparation of cellulose for (KAUFMANN and KOHLER), (P.), B., 934. recovery of sodium hydroxide from residues in (APPAREILS & EVAPORATEURS KESTNER), (P.), B., 813. fibres, manufacture of (Hölken), (P.), B., 70, 905*; (Snel-LING), (P.), B., 675. treatment of (OBERRHEINISCHE HANDELSGES.), (P.), B., 70. manufacture of filaments of (GRUNERT), (P.), B., 138; (Courtaulds, Ltd., Glover, and Heaven), (P.), B., 649; (Vereinigte Glanzstoff-Fabr.), (P.), B., 774. production of yarns of (Grand), (P.), B., 184. centrifugal production of (VEREIN. GLANZSTOFF-FABR.), (P.), B., 745. detection of abnormal treatment of (FAUST and LITTMANN), B., 69. chemical variation of (Heberlein & Co.), (P.), B., 473, 552. tenacity and elongation of (KAMI), B., 102. winding threads of (Schulz), (P.), B., 474. spinning of (Chavassieu and Soc. Fabr. Soie Rhodiaseta), (P.), B., 438. spinning and twisting of (Boger), (P.), B., 329. spinning box for (Soieries de Strasbourg and Bronnert), (P.), B., 104. spinning head for (Berlin-Karlsruher Industriewerke), (P.), B., 362. spinning machines for (Rushton and Hill; Rushton and Lever), (P.), B., 329; (Rushton; Scarpa and Anc. ÉTABL. JUTHY), (P.), B., 811. pumps for (HILLEBRAND and OLSON), (P.), B., 329. spindles of (Harbens, Ltd., Sharples, and General Electric Co.), (P.), B., 71. washing and conditioning of, on bobbins (Brysilka, Ltd. and Schubert), (P.), B., 811. dyeing of. See under Dyeing. affinity of, for dyestuffs (British Enka Artificial Silk Co. and N.V. Nederlandsche Kunstzijdefabr.), (P.), B., 406. production of printed and dyed effects on fabrics of (Calico PRINTERS' ASSOC., WHINFIELD, and LEVIN), (P.), B., 964. sizing of (Bruokhaus), B., 326; (Neutrasol Products Corp. and Pohl), (P.), B., 746. weighting of (CADGENE and RIVAT), (P.), B., 295; (RIVAT and Lyons Piece Dye Works), (P.), B., 675. optical double refraction of (FAUST), A., 513. use of, in textile industries (KING), B., 599. determination of solubility of, in alkalis (Weltzien), B., 773. determination of physical properties of (WYKES), B., 934. Celanese, dyeing of. See under Dyeing. cellulose acetate (Herzog), B., 163. treatment of (Brit. Celanese, Palmer, and Fulton), (P.), rendering of, resistant to hot or boiling aqueous liquids (SILVER SPRINGS BLEACHING & DYEING Co. and HALL), (P.), B., 964. dyeing of. See under Dyeing.

Silk, artificial, cellulose acetate, production of pattern effects on (TOOTAL BROADHURST LEE Co. and Foulds), (P.), B., 185. cuprammonium, manufacture of threads of (Schulz), B., 599. rayon, identification of (Anon.), B., 934.

nitrocellulose, manufacture of (Delpech), (P.), B., 362. manufacture of organzines and crêpe fabrics from (Del-

PECH), (P.), B., 184.

twisted, manufacture of, from cuprammonium solutions by stretch-spinning process (Bemberg A.-G.), (P.), B., 905. viscose, manufacture of (DREAPER), (P.), B., 407*; (FUKU-

SHIMA, TAKAMATSU, and WATANABE), B., 962. extraction of cellulose for (GIORDANI and CITTADINI), B.,

627.

structure and strengths of fibres of (Herzog), B., 246. manufacture of flat ribbon-shaped fibres of (British ENKA ARTIFICIAL SILK Co. and N.V. NEDERLANDSCHE Kunstzijdefabr.), (P.), B., 472.

manufacture of threads of (Bass and Erste Böhmische Kunstseidefabr.), (P.), B., 138; (Kämpf), (P.), B.,

139*.

spinning bath for (ERSTE OESTERREICHISCHE GLANZ-STOFF-FABR.), (P.), B., 579.

finishing of (WITTE and U.S. FINISHING Co.), (P.), B., 776. stretching processes for (Duré), B., 838.

treatment of fibres of, preparatory to dyeing (KARRER), (P.), B., 840.

enzymic degradation of (KARRER and SCHUBERT), B., 648. dyed, "brightening" of (WOLFGANG), B., 905.

spider's, Röntgen-ray structure of (Henzog and Jancke), A.,

Silk fibroin, structure of (ABDERHALDEN and SCHNITZLER; HERZOG), A., 686.

isoelectric point of (Meunier and Rey), B., 275; (Denham and Brash), B., 933. hydrolysis of (Zelinski and Lavrovski), A., 582.

constitution of diazo-compounds of (Morel and Sisley), A., 1212.

Silk industry, artificial, use of cellulose in (RAIMONDO), B., 871.

Silkworms, body-fluid of (Bito), A., 894.

Sillimanite, Röntgen-ray structure of (HYSLOP and ROOKSBY), B., 219.

use of, in glass works (Cousen and Turner), B., 219.

"Silox" powder, thermal conductivity of (ABERDEEN and LABY),

Silumin (Czochralski), B., 168.

Silver, atomic weight of (BRAUNER; BAKER and RILEY), A., 280, 493; (Hönigschmid, Zintl, and Thilo; Zintl and Gou-BEAU), A., 806; (LORING), A., 999.

effect of air on losses in cupellation of (King), B., 112. L-absorption spectrum of (Kellström), A., 912.

instantaneous spectrum of (NAGAOKA, NUKIYAMA, and FUTA-GAMI), A., 911.

K-series spectrum of (Kellström), A., 286.

heated, absorption of Röntgen rays in (READ), A., 999.

ionisation potential of (PICCARDI), A., 811.

potential of, in solutions of its salts (Brester), A., 734.

transport number of (MacInnes, Cowperthwaite, and Huang),

thermal expansion of (Keesom and Jansen), A., 1131.

thermionic melting diagram of (GOETZ), A., 805. lattice structure and density of (DAVEY and WILSON), A., 1128.

recrystallisation of (FEUSSNER), A., 1016; (WIDMANN), A., 1130; (GLOOKER and WIDMANN), B., 280.

rate of evaporation and vapour pressure of (Jones, Lang-

MUIR, and MACKAY), A., 927

diffusion of oxygen through (Johnson and Larose), A., 302. metallic, oligodynamy of (Wernicke and Dortzenbach), A., 982.

surfaces, electrical condition of, during adsorption of gases (Finch and Stimson), A., 1135.

precipitation of, from eyanide solution on charcoal (GRoss and

Scott), B., 936. colloidal, preparation of stable solutions of (TRAXL), (P.), B.,

sols, uniform, preparation of, free from protective colloids VOIGT and HEUMANN), A., 932.

colour and sensitiveness to light of (WIEGEL), A., 411.

protected (Voigt), A., 411, 1024. colloidal compounds of, application of yeast fermentation test to (TAYLOR), B., 858.

Silver, reaction between sulphur and, in powdered mixtures (Fisch-BECK and JELLINGHAUS), A., 943.

eatalytic synthesis of water with (Benton and Elgin), A., 118. recovery of, from photographic solutions (LEVY and HOLLY-

WOOD CHEMICAL Co.; GIFFEN), (P.), B., 542. from thiosulphate solutions (TRAXL), (P.), B., 621. anisotropic (BERKMAN, BÖHM, and ZOCHER), A., 201.

electrolytic, micro-crystals in (Irata and Komatsubara), A., 95. Silver alloys (Mitchell and Tiffany & Co.), (P.), B., 224; (Guertler), (P.), B., 390; (Leach and Handy & Harmen), (P.), B., 491.

tarnish-resisting (JORDAN, GRENELL, and HERSCHMAN), B., 880. with aluminium, age-hardening of (KROLL), B., 704.

with antimony, thermal expansion of (DE HEMPTINNE), A., 614. with copper, irregularities in (STREIGHER), B., 488.

with copper and gold, recrystallisation and annealing of (STERNER-RAINER), B., 559.

with copper and tin (GUERTLER and BONSACK), A., 628.

with mercury, electrochemistry of (ARNDT and PLOETZ), A., 736. with nickel (ROTHERT and DERN), B., 681.

with platinum, structure and properties of (Kurnakov and NEMILOV), A., 1133.

with silicon, non-tarnishing, manufacture of (Corson and Eleotro Metallurgical Co.), (P.), B., 913.

with tin (IRELAND and LIPMAN REFRIGERATION Co.), (P.), B., 582.

with zinc, crystallisation of (Petrenko), A., 938.

Silver compounds, reduction of, in alkaline solution (FARMER and Firth), A., 949.

pharmaceutical, preparation of (CHEMNITIUS), B., 124. Silver salts, colloidal precipitation of, in zones (STEIGMANN), A.,

201. inhibition of growth of bacteria by (Andresen), A., 1110.

Silver borate, anhydrous (DE CARLI), A., 325.

bromide, quantum decomposition of, by Röntgen rays (Eddern and Noddack), A., 841, 1154.

in gelatin, tracks of a-particles through (Myssovski and Tschishov), A., 915.

precipitated, frequency analysis of particle size of (LOVELAND and TRIVELLI), B., 893.

bromide and chloride, absorption and fluorescence spectra of (Franck and Kuhn), A., 1007.

surface constitution and spectral sensitivity of precipitates of (STEINER; FAJANS and STEINER), A., 529.

carbonate, dissociation of (Centnerszwer and Krustinson), A., 21.

chloride, photomagnetic effect in (HEAPS), A., 1131.

light sensitivity of (BRICKWEDDE), A., 634.

heat of precipitation of (LANGE and Fuoss), A., 419.

catalytic action of, in oxidation and reduction (LANG), A., 738. fused, ionisation coefficient of (Lowry), A., 521. determination of solubility of, potentiometrically (HAHN and

SCHULZE), A., 1020.

double salt of thallium chloride and (LUNDE), A., 97. chromate, colour of (Bush), A., 713.

condition of, in gelatin (DHAR and CHATTERJI), A., 200. dichromate, zone pattern of, in gelatin gels (RIEGEL and REIN-HARD), A., 625.

fluoborates (WILKE-DÖRFURT and BALZ), A., 120.

subfluoride (HETTICH), A., 1155.

crystal structure of (Steinmetz and Hettich), А., 1128. halides, electrolytic preparation of, from metallic silver (Sher-PARD, LAMBERT, and EASTMAN KODAK Co.), (P.), B., 17. solubilities of, in concentrated halide solutions (Dede and Walther), A., 830.

adsorption of dyes on (Sheppard), A., 107, 306.

colloidal, electrolytic preparation of (Wereide), A., 410. halides and sulphide, photo-electric activity of (Toy, EDGERTON, and Vick), A., 293.

hydroxide, existence of, in the solid state (RILEY), A., 324. amphoteric (LAUE), A., 1026.

iodide, absorption and fluorescence spectra of (Franck and

Kunn), A., 711. adsorption of ions by (MUKHERJEE and KUNDU), A., 409. reaction of mercurous chloride with (BERGMAN and HENKE),

A., 112. adsorption of octoic acid by (FRUMKIN and OBRUTSCHEVA), A., 617.

compounds of proteins with (SMITH and PARKE, DAVIS & Co.), (P.), B., 173*.

Silver magneside, atomic structure of (OWEN and PRESTON), A.,

nitrate, reduction of solutions of, by ultra-violet light in presence of protective colloids (Voict), A., 1024.

equilibria of, with lithium and rubidium nitrates (Palkin), A., 939.

complex ions of phenol and (ENDO), A., 827.

oxides (JIRSA, JELINEK, and SRBEK; JIRSA and JELINEK), A.,

sulphate, absorption of carbon monoxide by (Manchot and Könic), A., 1155.

sulphide, equilibrium of cuprous and lead sulphides with (Schwarz and Romero), A., 628.

sensitivity of, in photography (HICKMAN), B., 126. Silver detection and separation:

detection of platinum metals in, microscopically (Bannister), A., 746.

separation of lead and (Brintzinger), A., 535; (Müller and HENTSCHEL), A., 1046.

Silver-lead ores, concentration of (ELLIS), B., 301.

Silver mirrors. See under Mirrors.

Sinamine, thio. See Allylthiocarbamide.

Sinigrin (Heiduschka), A., 386.

Sinomenol (Goto), A., 146. Sintering apparatus (GREENAWALT), (P.), B., 144, 432.

Sintering machines (DWIGHT & LLOYD METALLURGICAL Co. and Knox), (P.), B., 492.

Sintering plant (GREENAWALT), (P.), B., 47. Siphon, automatic (SWINDIN), (P.), B., 768.

Sisal, separation of fibre from pulp of leaves from (HYDRAULIC Engineering Co. and Rutherford), (P.), B., 905.

Sitostanols, and their acetyl derivatives (Anderson and SHRINER), A., 457.

Sitosterol and its derivatives, pharmacology of (Seel), A., 73. dehydrogenation of (SCHMID and ZENTNER), A., 661.

Sitosterols, and their derivatives (Anderson and Shriner), B.,

reduction of (Anderson and Shriner), A., 457.

irradiated, antirachitic value of (Hess and Anderson), A., 1224.

Sizing for textiles (Teinturerie de la Rize), (P.), B., 699; (GALVIN; NEUTRASOL PRODUCTS CORP. and POHL), (P.), B.,

use of wetting-out agents in (I. G. FARBENIND.), (P.), B., 776. of yarns (British Celanese, Addy, Billing, and Halkyard), (P.), B., 214.

Sizing, compositions of (Hervé), (P.), B., 259. heavy, in mill practice (Neale), B., 294.

Skatoxylsulphuric acid in urine (Scheff), A., 375.

Skin, enzymes of (Wohlgemuth), A., 894.

formation of lactic acid in (WOHLGEMUTH and IKEBATA), A., 894.

sensitising action of, on colloidal solutions (JANEK and JIRGENsons), A., 271.

Skins, treatment of (SHEARD), (P.), B., 197; (DELAHAYE, RACHET & CIE.; BOHON and E. and P. MAILLIARD), (P.), B., 791.

treatment of, preliminary to tanning (Botson), (P.), B., 758, 917*.

degreasing of (Brown, Esselen, and Manufacturing Improve-MENT CORP.), (P.), B., 886.

chemistry of liming of (McLaughlin, Highberger, and Moore), B., 971.

micro-tannology of unhairing of (McLaughlin and O'Flamerty), B., 972.

animal, fat of (McLaughlin and Theis), B., 20.

formaldehyde-tanned, tanning, dyeing, and finishing of (LAMB), B., 685.

shark, tanning of (Ehrenreich), (P.), B., 949.

Sklodowskite, isomorphism of uranophane and (Schoep), A., 611. Slag, treatment of, with fluids under pressure (MAGNET and Soc. Anon. Chaux & Ciments de Lafarge & du Teil), (P.), B.,

444*. prevention of explosion during granulation of (Bogiren), B., 167.

availability of phosphoric acid in (Shutt), B., 588.

basic, chemistry of (VANSTONE), B., 729.

solubility in citric acid of phosphoric acid of (DUNKEL), B., 656.

blast-furnace, treatment of (A. and J. Crawford), (P.), B., 80.

Slag, blast-furnace, use of, as ballast (Burchartz and Saenger),

molten, granulation of, for cements (SPIES), (P.), B., 843. manufacture of artificial stone from (Schönhöfer), B., 938. containing titanium (STANSFIELD and Morrison), B., 489.

iron, presence of iodine in (LUNDE and V. FELLENBERG), B., 845.

silicate, analysis of (Colclough), B., 654.

Thomas, increasing phosphoric acid content of (Hilbert), (P.), B., 338*.

Slag-sands, hydraulic properties of (Guttmann and Weise), B.,

Sleep, problem of (E. and J. Keeser), A., 1110.

Slimes, concentration of, by flotation (Bragg and Metals Re-COVERY Co.), (P.), B., 302

Sludge, concentration of acid from (VINEYARD), (P.), B., 841. fate of grease in digestion of (Neave and Buswell), B., 830. acid. See Acid sludge.

lime. See Lime sludge.

Slurry, agitating apparatus for (FASTING and SMIDTH & Co.), (P.), B., 367.

Smeetic substances, orientation of, by a magnetic field (Foëx), A., 192.

Smelting of coke and iron ore masses, production of charges for (TORMIN), (P.), B., 912.

Smoke, production of (METIVIER), (P.), B., 622

for smoke screens (THRELFALL, KING, and CLARKE), (P.), B., 482.

scattering of light by particles of (Patterson and Whytlaw-Gray), A., 9. density of particles in (Patterson and Whytlaw-Gray), A.,

coagulation of (Nonhebel, Colvin, Patterson, and Whytlaw-GRAY), A., 1139.

Smokeless powders. See under Powders.

Snake venom. See under Poisons.

Soap, manufacture of (NESFIELD and GOODRICKE), (P.), B., 301; (COLLOIDAL PRODUCTS Co. and PETTIT), (P.), B., 340*; (SCHOU), (P.), B., 495; (WELTER), (P.), B., 946. use of colloidal earths in (Ters), B., 170.

drying of (Rost & Co.), (P.), B., 258.

carbon-black test for defloculating power of (Chapin), B., 117. detergent action of (Woodman), B., 83; (Fall), B., 727; (VINCENT), B., 970.

from hydrogenated oils, improvement of (Hirose), B., 339. mixtures of cresols and, as fruit sprays (Woodman), B., 23. gelatinisation of cresols with (Jenčič), B., 563.

acid (McBain and Stewart), A., 750.

alcohol (FALCK), B., 608. cresol (JENČIČ), B., 494.

curd, density of, during drying (Kristen), B., 530.

finely-divided dry, manufacture of (Holliday and Industrial SPRAY-DRYING CORP.), (P.), B., 339, 851*. grit-cake, specification for (U.S. Bureau of Standards), B.,

hard-water, production of compounds of (Hanson and Tarka-TINE MANUF. Co.), (P.), B., 585.

perfumed, permanence of (Weidner), (P.), B., 258. medicated transparent, manufacture of (VILLAIN), (P.), B.,

451*. soft, manufacture of (LEFFER and N.V. INTERNAT. QEEP Co.), (P.), B., 728.

vibrating jellies of (Buchner), A., 935.

determination of free alkali in (DAVIDSOHN), B., 18, 883.

Soap bases, complete saponification of fats in manufacture of (DAVIDSOHN), B., 707.

Soap boiling, equilibria in (McBAIN and FIELD), B., 18.

Soan cakes, production of, by neutralisation of (Vizern and Guil-LOT), B., §21.

Soap filaments, manufacture of (Charlton and Rowe & Co.), (P.), B., 417.

Soap flakes, manufacture of (FLAMMER and KELBER), (P.), B.,

relation between drying of, and their content of unsaturated acids (AISENBERG), B., 660. Scap powder, manufacture of (Industrial Spray-Drying Corp.

and Holliday), (P.), B., 661. maintaining the effectiveness of (BENCKISER,

REIMANN, JUN., and DRAISBACH), (P.), B., 661. Soap solutions (MIKUMO), A., 306.

Soap solutions, clasticity of (Seifriz), A., 413. dirty, purification of (Stern), (P.), B., 227. Soapstone, artificial (WYNKOOP), (P.), B., 110. Soda. See Sodium carbonate. caustic. See Sodium hydroxide. Soda ash, specification for (U.S. Bur. Standards), B., 553.
Sodamide, production of (Wait and Nat. Aniline & Chemical Co.), (P.), B., 907. action of, on cyclohexanone (CORNUBERT), A., 666. commercial (GUNTZ and BENOIT), B., 676. Soddyite, crystallography of (Schoef), A., 611. Sodium, structure of (Collins), A., 87. physical and chemical constants of (Edmondson and Egerton), Å., 103. spectrum of (Schütz), A., 1117. band spectrum of (SCHÜLER), A., 711. absorption band spectrum of (FREDERICKSON and WATSON), A., 1122. calculation of probabilities for series spectrum of (Sugiura), A., 1004. flash are spectrum of (NEWMAN), A., 285. molecular spectra of, and of its mixtures with potassium (Pringsheim and Rosen), A., 809. spark spectra of (Wetterblad), A., 491. D-line in luminescence of vapour of (HASCHE, PÓLÁNYI, and Vogt), A., 396. vapour, polarisation of resonance fluorescence of (Hanle), A., 292. transference number of, in mixed chloride solutions (Braley and RIPPIE), A., 733. melting point of (NIELSEN and BIEBER), A., 1019. fused, diffraction of X-rays in (Keesom), A., 923. density of solutions of, in liquid ammonia (KRAUS, CARNEY, and Johnson), A., 1023. vapour, dispersion centres in (Weingerov), A., 1126. surface tension of (Poindenter), A., 1132. entropy and chemical constants of (RODEBUSH), A., 718. preparation of sulphur compound of (Frazier and Frazier Co.), (P.), B., 188. decomposition of ethers by (Schoridin), A., 54. reciprocal displacement of potassium and, from their chlorides (HACKSPILL and RINCK), A., 939. Sodium alloys with lead (KRAUS, CALLIS, and STANDARD DEVELOF-MENT Co.), (P.), B., 606. with mercury, reduction of ruthenium trichloride with (REMY and Wagner), A., 328. with potassium, photo-electric emission from (IVES and STIL-WELL), A., 287. emission of electrons from reaction of carbonyl chloride with (RICHARDSON and BROTHERTON), A., 713. Sodium compounds in plants (BERTRAND and PERIETZEANU), A., Sodium salts, viscosity of saturated solutions of (Heynakowski), A., 619. Sodium aluminate, manufacture of (BARNITT and ALUMINUM Co. OF AMERICA), (P.), B., 388, 483. azide, manufacture of (WILCONON, GROTTA, and ATLAS POWDER Co.), (P.), B., 628 action of oxygen and hydrogen on (K. A. and U. HOFMANN), A., 31. compounds of, with arsenious and zinc salts (Yournazos), A., 842. azodithiocarbonate (Browne, Audrieth, and Mason), A., 430. borate (borax), absorption spectrum of (DREISCH), A., 496. recovery of, from brine (Kuhnert), (P.), B., 388. inhibition of crystallisation of, from brine (Gauger, Storch, and Burnham Chemical Co.), (P.), B., 409. volatility of (Kolthoff), A., 325. dehydration of (RAKUZIN and BRODSKI), B., 250. use of, in acidimetry (MILODEDZKI and KAMINSKA), A., 846. dotection of, in insecticides (François and Séquin), B., 974. bromate, piezo-electric effect in (VALASER), A., 1130. bromide, unusual impurity in (ZANOTTI), B., 875. bromido and iodide, activity coefficients of (HARNED and

carbonate (soda), ammonia-soda process for (Toporescu), B.,

influence of organic compounds on adsorption of carbon

dioxide by solutions of (RIOU and CARTIER), A., 311.

operation of lime-kilns in (KIRCHNER), B., 72.

Douglas), A., 112.

Sodium carbonate, surface tension and viscosity of solutions of (FAUST), A., 409. reactions in the solid state between barium carbonate, silica, and (KRAUSE and WEYL), A., 841. equilibrium of potassium carbonate, water, and (Hill and MILLER), A., 418. causticising of (Dorr and Bull), B., 476. granular, specification for (U.S. Bur. Standards), B., 554. determination of, by conductivity (Textor and Hoffman), B., 408. See also Laundry soda. sesquicarbonate, recovery of, from brine (Kuinerr), (P.), B., 252. hydrogen carbonate (sodium bicarbonate), manufacture of (ARNOLD and NITROGEN CORP.), (P.), B., 140. interaction of mercuric chloride and (P. and S. NEOGI), A., 214. magnesium carbonate (RUBINSTEIN and SOLT & KRONSTEIN), (P.), B., 188. carbonates, equilibrium of water and (HILL and BACON), A., 1142.recovery of, from brine (KUHNERT), (P.), B., 388. chlorate and chloride, equilibrium of, with potassium chlorate and chloride (DI CAPUA and SCALETTI), A., 731. perchlorate, solubility of (Cornec and Dickely), A., 723. chloride (common salt), manufacture of (Reid), (P.), B., 75. heat economy in (METALLBANK & METALLURGISCHE GES. and GENSECKE), (P.), B., 330. refining of (AKTIESELS. KRYSTAL and JEREMIASSEN), (P.), apparatus for purification of (NASH and WORCESTER SALT Čo.), (P.), B., 108*. ultra-violet absorption spectra of natural and artificial crystals of (HILSCH), A., 917. reflexion of Röntgen rays by (Bearden), A., 191. magnetic susceptibility of (Bieler), A., 402. electron distribution in (COMPTON), A., 1011. lattice constants of (BARTH and LUNDE), A., 611. temperature variation of dielectric constant of (Voigt), A., 919. heat capacity of constituents and specific heat of aqueous solutions of (RANDALL and RAMAGE), A., 208. solid, surface energy and heat of dissolution of (Lipsett, JOHNSON, and MAASS), A., 520, 954. drying of (MÜLLER), (P.), B., 330. treatment of, to render non-hygroscopic (A.P.I.C.E. Soc. Anon. Prodotti Italiana Chimici Estrattivi), (P.), B., equilibrium of cobalt chloride, water, and (MAZZETTI), A., 22. equilibrium of dextrose, water, and (MATSUURA), A., 518. equilibrium of lead chloride, water, and (Deacon), A., 1030. equilibrium of platinic chloride, water, and (Henke), A., 731. iodine content of, from Rumanian rock-salt mines (RADU-LESCU and GEORGESCU), B., 479. iodised, loss of iodino from (Johnson and Herrington), B., 813. reaction of, with litmus and mercuric chloride solutions (Moor), A., 1155. See also Rock salt. chloride and fluoride, reflexion of Rontgen rays by (HAVIG-HURST), A., 95. electron distribution in crystals of (HAVIGHURST), A., 191. chloride and nitrate, equilibrium of, with water (Hölzl and CROTOGINO), A., 207. equilibria of, with potassium and magnesium chlorides and nitrates (Frowein and v. Mühlendahl), A., 22. chromate, transformation of, into dichromate by means of carbon dioxide (Yushkevich and Shokin), B., 936. dichromate, manufacture of, from chromate, by means of carbon dioxide (Yushkevich and Shokin), B., 936. perferrate (Goralevitch), A., 433. fluoride, manufacture of (Seigel), (P.), B., 140, 189*; (Stevenson and Little, Inc.), (P.), B., 677. buffer action of solutions of (Moser), A., 516. halides, solubility and density of saturated solutions of (Scorr and Frazier), A., 405. hydride (Hüttig and Brodkorb), A., 529. spectrum of (Johnson), A., 185. hydroxide (caustic soda), Blattner process for preparation of, from sodium carbonate (HIRCHBERG), B., 906.

Sodium hydroxide (caustic soda), continuous apparatus for manufacture of (MOUNT), (P.), B., 187, 409*

transference number and activity of solutions of (Ferguson and Schluchter), A., 828.

concentration and purification of (HAMMOND and SHACKLE-TON), (P.), B., 251.

apparatus for osmotic purification of (Cerini), (P.), B., 937. apparatus for purification of solutions of (CERINI), (P.), B.,

production of granular (Willey and Mensing), (P.), B., 11. and asbestos, adsorption of water and carbon dioxide by, in metabolism experiments (LEE and Brown), A., 800.

action of formaldehyde on (MALVEZIN), A., 1172. specification for lyes of (U.S. Bur. Standards), B., 553.

reaction of, with formaldehyde (MESTRE), A., 960.

hydroxide and zincate, equilibria of, with zine hydroxide and oxide (E. and J. MÜLLER and FAUVEL), A., 518.

hypobromite, action of, on derivatives of carbamide and guanidine (Cordier), A., 138.

hypochlorite, manufacture of solid preparations of (APPLEBY and Carter), (P.), B., 701.

action of, on acid amides (RINKES), A., 45.

action of, on colouring matters (Sevewetz and Chaise), A., 353.

reaction of manganese salts with, in presence of other salts (DIXON and WHITE), A., 843.

hyponitrite, preparation of (Scott), A., 429.

hyposulphite, reduction of arsenates by (FARMER and FIRTH), A., 950.

arsenohyposulphite, production of (FARMER and FIRTH), A., 950.

iodide, application of the radiochemical theory to solutions of (AUDUBERT), A., 735.

influence of iodine on conductivity of, in alcoholic and acetono solutions (THÖNNESSEN), A., 420.

influence of other salts on solubility of, in ethyl alcohol (King and Partington), A., 1020.

equilibria of, with acctone and with methyl ethyl ketone (Wadsworth and Dawson), A., 22.

dispergation of cellulose in solutions of (v. Weimarn and Juna), A., 824.

molybdate, catalytic decomposition of hydrogen peroxide by (Spitalsky and Funck), A., 426.

phosphomolybdate, preparation of (Schakov), A., 532. nitrate (Chili saltpetre), by-products in manufacture of (FAUST), B., 250.

crude (caliche), treatment of (I. G. FARBENIND.), (P.), B., 877, 906.

crystalline, energy of (Topping and Charman), A., 96. equilibrium of water and (KURNAKOV and NIKOLAIEV; NIKC-LAIEV), A., 313.

equilibria of nitric acid and (Angus and Dawson), A., 111. determination of perchlorate in (VÜRTHEIM), B., 250. determination of potassium in (Leimbach), B., 874.

nitrite, determination of (Höeg), B., 600.

monoxide, manufacture of (Roessler & Hasslacher Chemical Co.), (P.), B., 218.

peroxide, manufacture of (Roessler & Hasslacher Chemical Co.), (P.), B., 365.

phosphate, purification of (Howard and Grasselli Chemical Co.), (P.), B., 907.

phosphates, dissociation pressures of (KIEHL and WALLACE), A., 312.

dihydrogen phosphate, hydration of (Beans and Kiehl), A., 948.

monometaphosphate, hydration of (Kiehl and Coats), A., 1042.

pyrophosphate, effect of hydrogen-ion concentration on hydration of (KIEHL and HANSEN), A., 26.

plumbite, electrolytic oxidation of, to plumbate (Jirsa and Kornalik), A., 738.

sclenite in coffee as cause of poisoning (RIECHEN), B., 614. silicate, dialysis of solutions of (GUTBIER and BRINTZINGER), A., 110.

diffusion of aqueous solutions of, across semipermeable membranes (GANGULY), A., 415.

mixed crystals of calcium silicate and (GINSBERG and NIKO-GOSSIAN), A., 418.

metasilicate, reactions of, with soluble metallic salts (GRIGORIEV), A., 1155.

Sodium silicates, properties of aqueous solutions of (Harman), Λ .,

vapour pressures and activities of aqueous solutions of (Bennett), A., 729.

equilibrium of, in aqueous solutions (HARMAN), A., 519. calcium silicates, Röntgen-ray structure of (WYCKOFF and Morey), A., 10.

sulphate (Glauber's salt), manufacture of (Kölichen and Althammer), B., 479.

anhydrous, manufacture of (HILL), (P.), B., 298. drying and grinding of (Polysius Eisengiesserei & Maschinenfabr.), (P.), B., 330.

variation of cell constant with concentration and molal conductivity of (RANDALL and SCOTT), A., 421.

freezing point and activity coefficients of aqueous solutions of (RANDALL and Scott), A., 419.

transition temperature and solubility of, in presence of sodium bromide or chloride (Norton and Johnson), A., 22.

density and specific volumes of aqueous solutions of (GIBSON), A., 508.

equilibrium of copper sulphate, water, and (CAVEN and JOHNSTON), A., 1142.

equilibrium of sulphuric acid, water, and (FAUST and ESSEL-MANN), A., 22.

effect of alkali on oxidation of, with air (Міхамото), А., 525. reduction of, to sulphide (Budnikov), B., 10.

decahydrate, dehydration of (OBERMILLER), B., 600. sulphates, manufacture of, from residues (Koelichen), B., 186.

ccrous sulphates (Zambonini and Restaino), A., 949. sulphide, preparation of, from sodium sulphate (Budnikov), B., 10.

manufacture of (Freeman and Canada Carbide Co.), (P.), B., 107; (I. G. FARBENIND.), (P.), B., 601. ignition of (MEURICE), A., 841

hydrosulphide, manufacture of (REINHARDT), (P.), B., 814. sulphite, production of ammonium chloride and (Chem. Fabr.

KALK and OEHME), (P.), B., 298. oxidation of solutions of, in light (ALLMAND and MADDISON),

A., 428. oxidation of mixtures of stannous chloride and, in alkaline

solution with air (Мічамото), A., 943. sulphites, manufacture of (Blumenberg and Stockholders Syndicate), (P.), B., 814.

solid, production of (CHEM. FABR. KALK and OEHME), (P.), B., 777.

hydrogen sulphite (bisulphite), anhydrous, production of (LAURY), (P.), B., 778.

treatment of waste liquors of (Drewsen), (P.), B., 138. thiosulphate, manufacture of (Sperr, Jacobson, and Koppers Co.), (P.), B., 815*.

preservation of standard solutions of (Yoshida), A., 435.

gold thiosulphate (GJALDBÆK), A., 324. preparation of (Brown), A., 430.

complex, manufacture of (Cassella & Co.), (P.), B., 252. production of stable, sterilisable, complex solutions of (I. G. FARBENIND.), (P.), B., 956*.

Sodium organic compounds complex, with hydroxyglyoximes (Ponzio and De Paolini; Ponzio and Sismondi), A., 135. a-naphthaleneazo-6:8-di-

benzeneazo-6:8-disulpho-, Sodium sulpho-, p-sulphobenzeneazo-, and 4-sulpho-a-naphthaleneazo- β -naphthyl sulphites (King), A., 1180.

triphenylgermanide and triphenylgermanolate (KRAUS and Foster), A., 268.

Sodiumoxydiethoxymethane (Adickes), A., 228.

Sodiumoxyethoxymethylene (Scheibler), A., 338. p-Sodiumsulphitomercurisalicylic acid, sodium salt (Rupp and Gersch), A., 685.

Sodium detection and determination :detection of (Díaz de Rada), A., 36.

detection of (Kolthoff), A., 436.

determination of, colorimetrically in blood and serum (Yosiii-MATSU), A., 894.

determination of, in foods (HUSBAND and GODDEN), B., 397. determination of potassium and (MEYER), A., 1046; (STOD-DARD), A., 1228.

Sodium ions, hydratation of (Baborovský and Velíšek), A., 734. Soils, structure of, and its significance in agriculture (Gedroiz),

preparation of (Widdis), (P.), B., 88. for practical suspension analyses (v. Nostitz), B., 855. Soils, electrodialysis of, by means of the Mattson cell (Clark, HUMFELD, and ALBEN), B., 952.

electrodialysis of colloids and exchangeable bases in (MATTSON),

capillary phenomena in (HAINES), B., 588.

porosity of, and its application in agriculture (Nitzsch), B.,

surface forces of, and their hygroscopic capacity (WOLFE), B., 587.

adsorption capacity of (Hissink), B., 88.

negative adsorption of electrolytes by (Trofimov), B., 887. value of experiments on (Hellmers), B., 791.

influence of types of cultivation on properties of (GIESECKE),

B., 233. preparation of suspensions of, and their degree of dispersion

(WIEGNER), B., 498.

use of collodion sacs in filtration of extracts of (Pierre and

PARKER), B., 150. biodynamics of (Kostytschev, Sheloumova, and Shul'gina; Korsakova and Bilinkina; Korsakova and Lopatina),

acidity of (MILLER), B., 263; (PAGE; CONNER), B., 308. changes in, caused by acid or basic fertilisers (KAPPEN), B., 308.

effects of physiologically acid fertilisers on (KAPPEN and

Bergeder), B., 55.

effect of, on micro-organisms of (Panganiban), B., 972. relation of ammonium sulphate in, to acidity (HAGEN), B., 791. "alkalinity" and "acidity" as applied to (Clarens), B., 950. reaction of (Dirks), B., 55.

relation between, and plant growth (v. KREYBIG), B., 310. and degree of saturation (v. Csiky), B., 728.

changes in, with ageing (AARNIO and SALMINEN), B., 973. relation of, to active aluminium (BLAIR and PRINCE), B.,

influence of calcium cyanamide on (PIEN), B., 663.

action of fertilisers on (Lemmermann, Fresenius, and GERDUM), B., 611.

and exchangeable hydrogen (SCHOLLENBERGER), B., 886. in relation to zeolitic silicates (TACKE and ARND), B., 21;

(SMOLIK), B., 308. hydrogen-ion concentration in (Wiegner and Gessner), B., 56.

factors affecting (BAUER), B., 498.

relation between hydrogen-ion concentration, saturation, and humus of (Hissink), B., 88.

reactions of, with alkali and alkaline-earth hydroxides (SAINT), B., 309.

dealkalisation of (Gedroiz), B., 972.

relation of buffer capacity of, to development of acidity from use of ammonium sulphate (PIERRE), B., 950. nitrification of ammonium sulphate in (HARPER and BOATMAN),

B., 373. base exchange and adsorption in (PAGE), B., 310.

exchangeable bases in (Sмітн), В., 886.

saturation of exchangeable bases in (v. Sigmond), B., 309.

influence of calcium in (GEDROIZ), B., 263.

changes of organic matter in, due to additions of calcium and magnesium compounds (MacIntire, Shaw, and Crawford), B., 307.

production of carbon dioxide in (BAL), B., 310.

carbon dioxide production and emission in (Lundegardh), B.,

percentage of carbon dioxide in air in (APPLEMAN), B., 951. carbon dioxide evolution from, and crop growth (LUNDEGARDH),

catalytic power of (WARSMAN and DUBOS), B., 170.

decomposition of cellulose in (VINOGRADSKI), B., 294; (WAKS-MAN), B., 856.

relation between "citric-soluble" and "root-soluble" nutrients in (HASENBÄUMER and BALKS), B., 343.

colloid chemistry of (TRUOG), B., 262.

colloids in (GILL), B., 310; (MARSHALL), B., 611; (McCool),

structure of (Duclaux), A., 401. properties of (Sokovolski), B., 262; (Anderson and Mattson), B., 588. in relation to fertility (JOFFE and McLEAN), B., 307.

in relation to humidity (FLEROV), B., 498.

having restricted drainage (Powers), B., 728. absorption of manganese salts by (QUARTAROLI), B., 917. Soils, origin of humus in (Waksman and Tenney), B., 22; (Waksman), B., 170.

cellulose as source of humus in (WARSMAN), A., 994.

decomposition of vegetable matter under, containing calcium and sodium as replaceable bases (Taylor), B., 691.

decomposition of hydrogen peroxide by (SCHARRER), B., 918. non-diffusible ions in (COMBER), B., 308.

influence of iron and manganese in, on fertility (Brewer and Carr), B., 421.

effects of electrolytes on kaolin in (Skeen), B., 587.

lime requirements of (Christensen and Jensen; Gehring), B., 309.

fate of lime in (HISSINK), B., 88.

effect of lime and fertilisers on potash content of (LIPMAN, BLAIR, and PRINCE), B., 587.

calcium silicates as source of lime in (BARNETTE), B., 171. rate of liming of (SLIPHER), B., 498.

delayed effect of liming of (KARRAKER), B., 972.

effects of liming and green manuring on supplies of nitrogen and humus in (MOOERS), B., 950. deficiency of manganese in (Schreiner and Dawson), B., 343.

decomposition of farmyard manure in (König), B., 198. variable occurrence of nitrates in (KARRAKER), B., 950.

sorption of nitrates in (Flerov), B., 886.

assimilation of nitrate by micro-organisms in (ALLISON), B.,

nitrification tests in (BATHAM), B., 855.

effect of ammonia on nitrification in (Bal), B., 825.

losses of nitrogen through denitrification in (Buswell and NEAVE), B., 950.

nitrogen in organic matter in (Sievers and Holtz), B., 263.

nutrient requirement of (MEYER), B., 566.

influence of treatment of, on the assimilability of nutrients (Hauschild), B., 917.

relation of chemical composition of, to effectiveness of organic matter in (Salter), B., 951.

composition of natural organic materials and their decomposition in (WAKSMAN and TENNEY), B., 951.

difficultly soluble phosphates in (Uncerea), B., 855. action of monocalcium phosphate in (Austin), B., 950. solubility of rock phosphates in (RAUSCHER), B., 918.

manurial experiments on, with phosphatic fertilisers (NIRLAS,

Strobel, and Scharrer), B., 88. effect of frost on availability of phosphoric acid and potassium

in (Bätz), B., 855. relation between available phosphoric acid and geological

formation of (Niklas, Pürckhauer, and Poschenrieder), phosphorus in (PARKER and FUDGE; PIERRE and PARKER;

PARKER), B., 758. action of superphosphate and Rhenania phosphate on (v.

KREYBIG), B., 759. determination of availability of potassium and phosphate in

(Blanck and Scheffer; Wiessmann), B., 307. influence of sulphur and gypsum on solubility and consumption by plants of potassium in (SHEDD), B., 22.

action of potassium chloride on, free from calcium (Demolos

and NATIER), B., 56. importance of potassium salts for (Nolte), B., 498.

influence of potash manuring on (NIKLAS, STROBEL, and Scharrer), B., 394.

relation of form of potash in, to amount removed by crops (Fraps), B., 887.

sodium silicate content of (ATKINS), B., 791.

movement of water in subsoils and (Lebedev), B., 918.

adsorption of moisture by (ALWAY), B., 262; (SEN and AMIN), B., 308.

moisture capacity of (SHAW), B., 422.

measurement of suction force and moisture content of (Kor-NEFF), (P.), B., 344.

evaporation of water from (FISHER), B., 662.

wetting of (Bouroucos), B., 307.

loss in drainage of calcium, magnesium, nitrates, and sulphates from dressings of (MacIntire), (P.), B., 421.

zeolite formation of (BURGESS and McGEORGE), B., 588. exchangeable hydrogen ions in zeolites in (TRÉNEL), B., 709. microbiology of (RIPPEL), B., 306.

algae in, in relation to soluble organic compounds (ROACH), A., 176, 994.

bacteria and activators in (ITANO), B., 151.

Soils, thermophilic bacteria in (Feirer), B., 150.

bacteriology of fertility of (Christensen and Jensen), B., 856. effect of paraffin used as coating for lead arsenate on microorganisms in (Fleming), B., 535.

decomposition of toxins by organisms in (GARDNER), A., 593. occurrence of yeast in (STARKEY and HENRICI), B., 150.

Soils, acid, classification of (ASKINASI), B., 232.

buffer capacity of (KAPPEN), B., 306.

measurement of lime requirements of (BRIOUX and PIEN), B., 171, 611.

growth of plants in (Haastert), B., 825.

sandy, action of ammonium sulphate and of sodium nitrate on (MEYER), B., 566. alkali, origin of (VILENSKI), B., 151.

aluminium hydroxide in, and their freezing up during reclamation (McGeorge, Breazeale, and Burgess), B., 588. black, high dispersion phase of (Shoshin), B., 588.

application of calcium sulphate and sodium carbonate to (Breazeale and Burgess), B., 637.

sodium hydroxide in (Burgess), B., 886.

leached and non-leached, microflora and productivity of GREAVES), B., 421.

alkaline or calcareous, availability of phosphates in (Breazeale

and Burgess), B., 454.

arable, influence of drying and heating of, on phosphoric acid content (Schlesing and Ledoux), B., 343.

sulphur content of (BERTRAND and SILBERSTEIN), B., 566. determination of sulphur in (BERTRAND and SILBERSTEIN), B., 709.

German, phosphoric acid requirements of (Lemmermann and Jessen), B., 198.

and pasture, manuring trial on (POPP, FELLING, and FLOESS),

in Atlantic coastal region, efficiency of various forms of nitrogen for (SMITH), B., 308.

Brunswick, lime requirements of (Genring, Peggau, and Wehrmann), B., 309.

clay, flocculation of, by alkali and alkaline-earth chlorides (DUMONT), B., 343.

heavy, productivity and nutritive value of pasturage on (WOODMAN, BLUNT, and STEWART), B., 588.

and fen, action of lime on (HISSINK), B., 87. colloidal, measurement of "suction forces" in (HARDY), B., 728. cultivated, total sulphur content of (BERTRAND and SILBER-STEIN), B., 951.

fallow, modifications of nitrogenous substances in (Lebediant-

zev), B., 709.

phosphoric acid in (Lebediantzev; Schlesing), B., 759. field, effect of calcium cyanamide on nitrate content of (ALLIson), B., 886.

Finland, reaction of (BRENNER), B., 309.

forest, microbiology of (Bokon), B., 306.

humification of the dead covering of (Nemec), B., 587.

heavy, moisture equivalent of (JOSEPH), B., 232.

alkaline, organic matter in (Joseph and Whitfelld), B., 232. humus sandy, lime requirements of (Hudic), B., 309.

lateritic, origin of (EICHINGER), (P.), B., 21. loam, permeability of (WITYN), B., 587.

Marion County (SMITH, NORTON, DE TURK, BAUER, and SMITH), B., 887.

marsh, proofing of, against moisture and fire (WILKENING),

(P.), B., 133. Mauritius, reversion of nitrates in (CRAIG and GIRAUD), B., 343.

mulched, nitrate accumulation under (Beaumont, Sessions, and Kelly), B., 855.

Netherland, mineralogy of (DRUIF), A., 955.

nitrogenous, solubilisation of sulphur in (GUITTONNEAU and KEILLING), B., 587.

of North Wales, losses of phosphate by leaching from (Robinson and Jones), B., 232.

Oregon, replaceable bases in (Stephenson), B., 728.

peat, phosphoric acid content of crops grown on (ALWAY, SHAW, and METHLEY), B., 170.

reclaimed, cultivation sickness in (HUDIG and MEYER), B., 21. Philippine, nitrifying power of (ALICANTE), B., 308. planted and unplanted, growth of micro-organisms in (Wilson

and Lyon), B., 395. podsol, biochemical processes in (Kravkov), B., 151.

microbiology of (Korsakova and Bilinkina; (Korsakova and LOPATINA), B., 454.

Soils, podsol, nitrification and solubility of phosphoric acid in (Sobolev), В., 21.

transformation of phosphorus in (ZIKHMAN-KEDROV), B., 588. and tchernozem, of Russia, effect of drying on (LEBEDIANTzev), B., 973.

in rice fields, carbon-nitrogen ratio and microbiology of (ITANO and DRAKAWA), B., 611.

saline county (SMITH, NORTON, DE TURK, BAUER, and SMITH), B., 887.

Southern, microbiology of (Kostytschev, Sheloumova, and Shul'oina), B., 454.

sterilised, oxidation and nitrification in (Parisi and Carbon-CINI), B., 262. partially sterilised, biochemical effects of inoculation of protozoa

and fungi into (SKINNER), B., 856. surface, amounts of plant nutrients in subsoils and (HONCAMP

and Steinfatt), B., 198. tropical, application of the Neubauer seedling method to

VAGELER), B., 54. upland, losses of phosphoric acid by leaching from (Robinson

and Jones), B., 310.

Will County (SMITH, ELLIS, DE TURK, BAUER, and SMITH), B., 887.

Soils, mechanical analysis of (Filatov), B., 263; (Köhn), B.,

with the hydrometer (Bouyoucos), B., 498. by the pipette method (Köttgen), B., 729.

membrane filters in analysis of (HOFFMANN), B., 973.

chemical determinations during a survey of (GLE), B., 951. determination of ammonia in (DEMOLON), B., 792.

determination of replaceable bases in (BURGESS and BREAZEALE), B., 21, 637.

determination of carbon and nitrogen in (Brown), B., 535. determination of colloids in (Bouroucos), B., 422, 454; (Joseph), B., 951.

determination of fortility of (STOKLASA), B., 587; (BAMBERG), B., 709.

determination of humic acid in (SCHAILL), B., 759.

determination of hydrogen-ion concentration in (HISSINK and VAN DER SPEK), B., 308; (VINCENT), B., 422; (OLSEN and LINDERSTRÖM-LANG), B., 566; (NEHRING), B., 759; (BILLMANN and TOVBORG-JENSEN; BRIOUX and PIEN), B., 886; (Morgan), B., 951.

determination of lime requirement of (Genring, Peggau, and WEHRMANN), B., 728.

determination of manganese in (QUARTAROLI), B., 918.

determination of manurial requirements of (GERLACH), B., 54, 88, 262; (GERICKE), B., 374; (DENSCH and PFAFF), B., 855.

determination of nitrates in solutions and extracts of (FLINT), B., 826.

determination of nutrient deficiency of, by the seedling method (AMES and GERDEL), B., 662.

determination of nutrients in, by means of plant analysis (Јасов), В., 637.

determination of nutrient requirements of, by the Neubauer seedling method (STECHE), B., 760.

determination of organic matter in (SCHOLLENBERGER), B., 662. determination of organic matter in, with hydrogen peroxide (Robinson), B., 535.

determination of phosphate requirements of (LEMMERMANN, FRESENIUS, and LESCH), B., 453.

determination of phosphoric acid in (HISSINK and DEKKER; GERLACH and NOLTE), B., 87; (NEUBAUER; ENGELS), B., 120; (SCHEPONOVSKI), B., 951.

determination of phosphoric acid in, iodometrically (FRODL), B., 22.

effect of calcium and iron on determination of phosphoric acid in (Němec), B., 170.

determination of potassium, colorimetrically, in aqueous extracts of (Němec), B., 918.

determination of available potassium in (AMES and GERDEL), determination of reaction of (GANSSEN, PFEIFFER, LAAGE,

HALLER, UTESCHER, and TRÉNEL), B., 728. determination of degree of saturation of (Gericke), B., 728. determination of moisture in (STEMENS & HALSKE and WERNER),

(P.), B., 343; (Bouyoucos), B., 454, 887. Soil solutions, action of calcium carbonate and phosphorite on

composition of (Druzhinin), B., 887.

Soil solutions, use of the quinhydrone electrode with (ITANO, Solutions, theories of (EBERT), A., 20. DRAKAWA, and Hosoda), B., 611. molecular structure in (Howell), A., 205, 1136. analysis of (Bollen and Neidig), B., 729. properties of large molecules in (MARINESCO), A., 17. determination of potassium and sodium in (NEIDIG and properties of substances in, compared with those in the solid Bollen), B., 151. state (Montemartini and Losana), A., 199. Solanum Balbisii and dulcamara, colouring matter from (KYLIN), density and refractive index of (DE LATTRE), A., 616. existence of molecules and complex ions in, deduced from Solanum pseudocapsicum, colouring matter of (Kylin), A., 669. refractivity (Fajans), A., 1023. Solar spectrum, wave-lengths in (St. John), A., 997. for aluminium (Torii), (P.), B., 785. apparatus for producing spark spectra of (Lomakin), A., 80. in high-tension electric fields (STARY), A., 522. for aluminium and its alloys (LINE), (P.), B., 80. of strong electrolytes, theory of (Bjerrum), A., 1028. for lead-bearing metal containing alkali or alkaline-earth contact potential between (DENINA), A., 114. metals (WERNER), (P.), B., 632. aluminium (CROY), (P.), B., 144. ionisation by bubbling air through (PITTS), A., 604. freezing point of (VISEUR), A., 312. granular, for brazing (DAVIS and AMERICAN BRASS Co.), (P.), adhesion in (Dubinin), A., 929. B., 223. creeping of (WASHBURN), A., 931. diffusion in (ULLMANN), A., 404. determination of tin and lead in (Коси), В., 143. Soldering (THOMA), (P.), B., 726. fluxes for (Blackford), (P.), B., 753; (THEURER), (P.), B., 913. intertraction in (ADAM), A., 16. Helmholtz double layer in (BURTON), A., 1033. Soledon dyes, application of (Rowe and Bean), B., 362. displacement principle for (Reichinstein), A., 515. Solids, molecular theory of (SMEKAL), A., 192. separation of substances in (ISAACHSEN and A./S. KRYSTAL), properties of, compared with properties in solution (Monte-(P.), B., 898*. MARTINI and LOSANA), A., 199. recovery of dissolved substances from (METALLBANK & METALvolume relationships in formation of (Saslavsky), A., 812. LURGISCHE GES.), (P.), B., 800. electrical conductivity of (FRIEDERICH), A., 113; (FRIEDERICH aqueous, method of making (SHOOK and AQUAZONE CORP.). (P.). and MEYER), A., 114; (TUBANDT and REINHOLD), A., 316. B., 389. bombardment of, by slow electrons (DAUVILLIER), A., 181. electro-osmosis of, through sintered glass diaphragms (FAIR-BROTHER and VARLEY), A., 826. thermobalance analysis of change in, when heated in gases Saitô), A., 629. influence of concentration and hydrogen ion activity on rotation of (Liquier), A., 827. solubility of, at low temperatures (JACEK), A., 198. recovery of, from solution (DICKERSON), (P.), B., 1. vapour pressure of (WHYTLAW-GRAY and WHITAKER), A., 111. vapour pressure and heat of dilution of (HARRISON and PERMAN), A., 207. of different specific gravities, separation of (RAW), (P.), B., binary, partial molal quantities of (Sosnick), A., 1028. density of suspensions of, in liquids (Chance), (P.), B., 176. agitation of suspensions of, in liquids (Chance), (P.), B., 176. concentrated, theory of (WILKE and MARTIN), A., 415. neutral salt action in (SCHMID and OLSEN), A., 21. analogies to gas laws for (Beck), A., 520. surface tension of (ADAM), A., 404. ideal, perisphere constant for (Marinescu), A., 625. surface adsorption and velocity of reaction at interfaces of mixed, of electrolytes and non-electrolytes (SCATCHARD), A., gases and (Constable), A., 322. 1028. friction of (Mallock), A., 823. non-aqueous, application of Nernst's theory to (Brodsky), A., equation of state for (VAN LAAR), A., 1031. 735. normal or standard, production of (De Haen Chem. Fabr. "List." Ges.), (P.), B., 907. perfect, theory of (Daniewski), A., 204. saturated, properties of, at 100° (Prudhomme), A., 104. chemistry of (Kohlschütter), A., 815. reactions of (Balarev; Tammann), A., 314; (Hedvall), A., 629; (Garre), A., 822. at high temperatures (JANDER; GUILLISSEN), A., 1037. separation of, from liquids (Symington), (P.), B., 896. physico-chemical analysis by means of boiling point of (Cornec machine for (LAUGHLIN and LAUGHLIN FILTER CORP.), and KLUG), A., 1020. solid, concentration and fluorescence of (MERRITT), A., 91. (P.), B., 768*. Solvents, selective action of (WRIGHT), A., 721. from liquids of low melting point (Bergedorfer Eisenwerk), effect of solutes on density of (GRUNERT), A., 928. (P.), B., 671. from meal or powder (SIZER), (P.), B., 896. recovery of, from adsorbent carbon (RAY and CARBIDE & recovery of, from press liquids (Bergen), (P.), B., 719. CARBON CHEMICALS CORP.), (P.), B., 60. apparatus for treatment of mixtures of liquids and (STEEN), mixed, cataphoresis in (Bikerman), A., 825. esterification in (BIIDE and WATSON), A., 1036. (P.), B., 800. subjection of, to action of liquids, distributing cock for use in velocity of reactions in (Muchin, Ginsburg, and Moissejeva), A., 524; (Muchin and Moiseev; Muohin, Karlson, and (Mourgeon), (P.), B., 863. STEIN; GINSBURG and MUCHIN), A., 1149. introduction or removal of, in vessels under pressure (Badische ANILIN- & SODA-FABRIK), (P.), B., 127. incandescent, fluorescence and luminescence of (Nichols). non-aqueous, effect of electrolytes on solubility of other electrolytes in (Kraus and Seward), A., 1020. volatile, recovery of (Brégeat), B., 239; (METALLBANK & METALLURGISCHE GES.), (P.), B., 319; (WIESENTHAL), B., 511; (OERTEL and METALLBANK & METALLURGISCHE GES.), (P.), B., 517*; (BODEWIC), B., 797. immiscible, interdiffusion of (TUBANDT and JOST), A., 1020. finely-divided, manufacture of (I. G. FARBENIND.), (P.), B., 837. moist granular, mechanical properties of (NUTTING), B., 431. Solid solutions. See Solutions, solid. fixing agents for (RIEDEL A.-G.), (P.), B., 893. Soor neonatorum, growth of, in respect to water-soluble vitamins (v. Hahn), A., 283. Solid state, reactions in, at high temperature (JANDER), A., 736. Solidification, molecular theory of (Smekal), A., 192.
Solubility (Glasstone, Dimond, and Jones; Glasstone, Dimond, and Harris), A., 14; (Oliveri-Mandala), A., Sorbaldehyde, and its semicarbazone (BAUMGARTEN and GLATZEL). A., 43. 303; (DORFMAN and HILDEBRAND), A., 405; (TOURNEUX Sorbic acid, and bromo-, and their methyl esters (FARMER and and Pernot), A., 406; (Glasstone, Bridgman, and Hodg-HEALY), A., 647. Sorbitol, properties of, and its possibility as source of anaërobic son), A., 416. and partition coefficients (Pershke), A., 304. energy (Davis, Slater, and Smith), A., 71. in relation to surface tension (TRAUBE, SCHÖNING, and WEBER), Soret effect (TANNER), A., 204; (PORTER), A., 827. Sound, velocity of, relation between specific heat, thermal ex-A., 1022 of strong electrolytes (HOLLUTA and MAUTNER), A., 828. pansion, and, in liquids (SREENIVASAIAH), A., 818. of gases, influence of temperature on (TAMMANN), A., 105. variation of, in gases with temperature (IRONS), A., 718. of non-electrolytes, effect of less volatile substances on (TAM-Soya beans, effect of boron on growth of (Collings), B., 307. mutase in (KLAR), A., 907. MANN), A., 105.

selection for quality of oil in (Cole, Lindstrom, and Wood-

worth), B., 760.

of solids at low temperatures (JACEK), A., 198.

Solution, media for emulsification and (SCHMIDT), (P.), B., 237.

Soya beans, phosphatides of (GRAFE and OSE), A., 995; (RIEDEL Spectra, arc, in chlorine (MIYANISHI), A., 910, 998. A.-G.), (P.), B., 829. atomic, regularities in (McLennan and McLay), A., 909. pp'-groups in (SAWYER), A., 1117. band (HUND), A., 183. decomposition of protein of (Mashino), A., 474. Soya-bean flour as size for paper (DAVIDSON, RIPPEY, CONE, LAUCKS, BANKS, and LAUCKS, INC.), (P.), B., 437. fine structure and electron terms in (Hulthen), A., 1121. intensity distribution in (CONDON), A., 89. detection of, in mixtures with wheat flour by means of Wood light (Cappelli), B., 667. Zeeman effect for (Kemble), A., 1000. Soya-bean hay, net energy values of (Forbes, Braman, Kriss, and electronic states (MULLIKEN), A., 607. FRIES, JEFFRIES, SWIFT, FRENCH, and MANCHER), B., 712. in relation to the periodic system (Mecke), A., 495. Soya-bean meal, amino-acids of (Shita and Yanagigawa), B., and electronic structure of diatomic molecules (Molliken), A., 394, 916. and molecular binding (LUDLOFF), A., 5. Soya-bean oil, detection of linseed oil in (CARRIÈRE), B., 493. ψ-Sparteine, and its picrate (Wolffenstein and Reitmann), A., multiplet, rotational distortion in (Kemble), A., 1121. bead (Nichols, Howes, and Wilber), A., 607; (Howes and Spartium junceum, sparteine in flowers of (Sanna and Chessa), SLATTERY), A., 918. A., 995. continuous (WINTNER), A., 1, 81, 285. quantum theory of (Oppenheimer), A., 291. Spectra, structure of (Weiger), A., 801. and spinning electrons (GOUDSMIT and UILLENBECK), A., 1121. emission, quantitative analysis by (Sohweitzer), A., 845. notation for (HICKS), A., 285. explosion, of combustion engines (HENNE and CLARK), B., 131. hydrogen-like, fino structure of (RICHTER), A., 801. interpretation of (Laporte), A., 82. infra-red (SMITH and WESTMAN), A., 389. excitation of, by atomic hydrogen (Mohler), A., 389. intensity and width in (TRUMPY), A., 997. line, isotope effect in (Joos), A., 915. fine structure of lines in (PASCHEN), A., 389. of gases, effect of changes in potential and frequency on intensity of lines in (Merton), A., 81; (Brodsky; Ornstein (SWINDLER), A., S2. and MINNAERT), A., 705. magnetic, control of soldered joints by (Roux), B., 911. variation of, with intensity of exciting light (Wood), A., 1117. molecular (Hund), A., 495, 809. characteristics of (Heitler), A., 915. intensity and widening of lines of (TRUMPY), A., 179. broadening of lines in (Hettner), A., 89. β-ray, continuous (Ellis and Wooster), A., 494. true and apparent width of lines in (BURGER and VAN CITTERT), positive-ray, distribution of intensity in (Johnson), A., 181, 182. Röntgen-ray (DAUVILLIER), A., 286. A., 909. quantitative sensitivity of lines in (Negresco), A., 909. Debye-Scherrer technique for (KURDJUMOV), A., 814. magnetic displacement of lines in (WIEN), A., 86. intensities of (van der Tuuk), A., 286; (Jönsson; Nasledov and Scharavski), A., 286, 706. reversal of lines in (KIMURA), A., 601. intensity distribution in Balmer lines in (HARRISON), A., 285. intensity of lines in, as function of the exciting potential singlets and triplets in lines of (ORNSTEIN and BURGER), A., SI. (Jönsson), A., 804. types of, from different electron configurations (MILLIKAN and displacement of lines in (Loring), A., 287, 391, 602, 707. O-triplets in (HIRATA), A., 5. Bowen), A., 998. multiplets in, in two-electron systems of the first long period (GIBBS and WHITE), A., 389. effect of polymerisation on (KATZ), A., 411. photographic measurement of (Astbury), A., 912. deduction of the electric field near the surface of atoms from in the intermediate region (Thibaud and Soltan), A., 1000. of fatty acids (TRILLAT), A., 401. (SEN), A., 177. of saturated dicarboxylic acids and their ethyl esters (Norof alkali metals, intensity ratio of doublets in (Kohn and Jakob; Füchtbauer and Meier), A., 178. MAND, Ross, and Henderson), A., 612. of atomic systems with two electrons (Heisenberg), A., 5. of the rare earths (VAN DER TUUK), A., 999. of diatomic molecules (LANDAU; MULLIKEN), A., 183. of liquid and solid organic compounds (HERZOG and JANCKE), of elements of the first long period, displacement of multiplets A., 1129. in (GIBBS and WHITE), A., 910. of the second order (DRUYVESTEYN), A., 804. of high-frequency discharges in super-vacuum tubes (Wood and Looms), A., 1008. quantitative analysis by means of (GÜNTHER), A., 329. absorption (Jönsson), A., 1118. of metals of the second group (Saha), A., 705. and chemical linking (AOYAMA, KIMURA, and NISHINA), A., of two- and three-valency electrons (SAWYER), A., 1. 999. effect of temperature on (READ), A., 83. of three-electron systems, multiplets in (GIBBS and WHITE), continuous (Oppenheimer), A., 83. A., 601. of the third order, structure of (MIHAL), A., 3. fluorescence, intensity in K_{α} -doublet of (Woo), A., 1000. absorption, classification of (RITSCHL), A., 496. K-series (Leide), A., 3. measurement of (Schachtschabel), A., S1. soft (Oscood), A., 602. and ultra-violet (THORÆUS), A., 83. influence of different centres of absorption on (Purvis), A., 496. spectrographic junction of (Thibaud), A., 803. influence of solvent on, and equilibria (Scheibe, Felger, and resonance, light source for excitation of (CARIO and LOCHTE-Rössler), A., 711. HOLTGREVEN), A., 489. of alkaloids (KITASATO), A., 1095. scintillation (KUTZNER), A., 1121. of aromatic amino-acids (Abderhalden and Haas), A., 608. L-series, tubular spectrometer for (Friman), A., 83. of saturated and unsaturated organic compounds (Purvis), spark, of metals excited in various media (MIYANISHI), A., 910. of solutions, apparatus for (Lomakin), A., 89. of solutions in relation to distribution of charge of molecules ultra-violet, of carbohydrates (Kwieciński and Marchlewski), (Scheibe; Scheibe, Backenköhler, and Rosenberg). A., 6. Spectrochemistry of organic compounds (v. Auwers), A., 1123. anomalous, of concentrated solutions (Adinolfi), A., 1123. of nitrogen compounds (v. Auwers and Ernst), A., 395. infra-red (BENNETT and DANIELS), A., 186. of pyrazolines (v. Auwers and Heimke), A., 1203. of fluids (Gapon), A., 1007. Spectrograms, instantaneous (NAGAOKA, NUKIYAMA, and FUTAof halogen organic compounds (ELLIS), A., 1006. GAMI), A., 1117. of sulphur organic compounds (Bell), A., 1052. Spectrograph, fluorite vacuum (Leiss), A., 909. of N.H linkings (Ellis), A., 291. mass, and the whole number rule (Asron), A., 914. ultra-violet, measurement of, by photographic photometry vacuum grating (Thibaud), A., 286. (LEY and VOLBERT), A., 1121. Spectrometer, infra-red (Pfund), A., 495. of compounds containing two benzene rings (Castille), A., Röntgen-ray (Nicholas), A., 390. 186, 608. wave-length, for investigation of natural pigments (Schumm), of physiological fluids (Reinhard), A., 1104. A., 437.

Spectrophotometry (TAYLOR), A., 495; (DITCHBURN), A., 1121.

in the red and infra-red (Schoen), A., 394.

K absorption, and chemical constitution (STELLING), A., 391.

are, multiplets in (Frerichs), A., 82.

Spectroscopic analysis (Porlezza and Donati), A., 124, 184, 334; (Donati), A., 333. quantitative (Konen), A., 329; (Šebor), A., 1158.

calibration in (Reis), A., 329.

Spectroscopic terms, calculation of (Russell; Gibbs, Wilber, and WHITE), A., 705.

Spectroscopy, vacuum (Bowen), A., 81. Spermaceti (André and François), B., 584.

Spermaceti oil, aliphatic unsaturated alcohols in (André and François), B., 706.

Spermidine, synthesis of, and its salts and m-nitrobenzoyl compound (Dudley, Rosenheim, and Starling), A., 343.

Spermine (WREDE, FANSELOW, and STRACK), A., 264, 651. phosphate, crystals of (WREDE, BOLT, and BUOH), A., 478. Spinacene, and its derivatives (ANDRÉ and CANAL), B., 416.

Spinach, utilisation of calcium of (McLaughlin), A., 1107. vitamins of (WILLIMOTT and WOKES), A., 904.

fresh, antirachitic value of (ROSCOE), A., 381.

Spinal cord, detection of iron in ashed sections of (Keuscher), A., 788.

Spinning baths (Erste Oesterreichische Glanzstoff-Fabr.), (P.), B., 579.

Spinning solutions for artificial silk, threads, etc. (EICHENGRÜN), (P.), B., 579.

Spirits, occurrence of methyl alcohol in, from fruit residues (Reif), B., 455.

potable, analyses of (PIRANI), B., 500.

determination of alcohol in (FEDER and RATH), B., 89.

Spirochætosis, experimental, composition of liver in (INADA), A., 789.

Spirographis Spallanzani, tubular sheath of (FRÄNKEL and JELLINEK), A., 788.

Spirogyra, influence of osmotic pressure on permeability of cells of (Scarth), A., 1109.

Spleen, chemical activity of (RAY and STERSON), A., 792. fatty acids of, after castration (CANNAVO), A., 587.

arginine in (Gulevitson and Kaplanski), A., 787.

proteolytic enzymes of (WALDSCHMIDT-LEITZ and DEUTSCH),

A., 794.

physiology of (MITSUBA), A., 696.

rôle of, in fat and lipin metabolism (LEITES), A., 898.

ox, presence of diaminophosphatide and kerasin in (WALZ), A., 691.

Splenectomy, oxygen capacity of hamoglobin after (STIMSON), A., 1217.

Sponges, constitution of (CLANCEY), A., 65.

properties of dissociated cells of (GALTSOFF and PERTZOFF), A., 71.

artificial, manufacture of (Mostny), (P.), B., 165.

Spongin, hydrolysis of (CLANCEY), A., 65. "Spramex," emulsions of (MINERAL A.-G. BRIG), (P.), B., 595.

Sprays, standard mixtures for (Andrew and Gorman), B., 198. combined lead arsenate and lime (VAN DER MEULEN and VAN LEEUWEN), B., 951.

for plants (KREIDL), (P.), B., 199.

Spray liquids, physics of (WOODMAN), B., 23.

solubility of, in soap solvents (WOODMAN), B., 232.

Spraying of liquids (INDUSTRIAL ASSOCIATES INC.; NYROP; MARTIN), (P.), B., 801.

Spraying apparatus (KISSE), (P.), B., 319; (GRESHAM), (P.), B., 545.

for liquids or gases (LEWIS), (P.), B., 640.

Squalene, and its derivatives (André and Canal), B., 416. hydrogenation of (Heilbron, Hilditch, and Kamm), A., 130;

Тѕилтмото), А., 1051. Squalus wakiyae, fatty acids of (Toyama and Tsuchiya), B., 706.

Squills, red and white, rat-poisoning substance in (WINTON), A., 991.

Squirting apparatus for materials becoming plastic on heating (GERGACSEVICS), (P.), B., 185.

Stabilisation of compounds by exothermic additive reactions (BILTZ), A., 1143.

Stains, removal of, from fabrics (Poole), (P.), B., 9. biological, solubilities of (Holmes), A., 593, 895.

Staining, vital, and adsorption (KREBS and NACHMANSOHN), A., 895.

"Stand oil," testing of (WOLFF), B., 531.
Standards, tentative (AMERICAN SOCIETY TESTING MATERIALS), B., 575.

Stannic acid, Stannic and Stannous salts. Sec under Tin.

Staphylococcus, chemical constitution and therapeutic action in infection by (WALKER and SWEENEY), A., 991.

Stars, temperature of, in relation to ionisation of gases (Tiercy). A., 708.

ionisation equilibria in atmospheres of earth and (Pannekoek), A., 288.

Star anise oil, distinction between anise oil and (MARLEUW), B., 267.

Starch (Pringsheim, Leibowitz, and Mechlinski), A., 136; (PRINGSHEIM and MEYERSOHN; LING), A., 860.

structure of (Peiser), A., 753. manufacture of (Penick & Ford; Corn Products Refining Co.), (P.), B., 888.

treatment of potatoes in (Maschinenbau-Anstalt Hum-Boldt), (P.), B., 888.

crude, purification of (Bratring), (P.), B., 921.

peptisation of, by ultra-violet light (SAMEC), A., 412. depolymerisation of (PICTET and SALZMANN), A., 450.

colouring of grains of (HALLER), A., 201.

rate of drying of wheat flour, gluten, and (FISHER), B., 638. forming mucilage with cold water (Pfeifer & Schwandner), (P.), B., 199.

acetylation of (Peiser), A., 136.

action of ethylene on (REA and MULLINIX), A., 961.

action of iodine on (GORBATSCHEV and VINOGRADOVA), A., 722, 1174; (GRAMENITZKI), A., 861.

hydrolysis of, by sulphuric acid (Nottin), A., 650.

digestion of, in plant cells (MAIGE), A., 388.

reactions of various kinds of, in reference to enzyme hydrolysis (Hermano and Rask), B., 199.

optimum hydrogen-ion concentration for enzymic hydrolysis of (SHERMAN, CALDWELL, and ADAMS), A., 992.

fermentation of, by maltase-free yeast (Gottschalk), A., 902. fission of, by Saccharomyces sake (Sjöberg), A., 279. nitrate (OKADA), B., 311.

maize, properties of (TAYLOR and WERNTZ), B., 612.

hydrolysis of, by commercial pancreatin (WALTON and DITTMAR), A., 75.

potato, purification and drying of (MARILLER), B., 711.

prepared, manufacture of (NANJI), B., 665.

rice, production of, for glucose manufacture (KAUTZ and Soc. Anon. Prodotti Industriali), (P.), B., 264.

wheat (Samec, Guzelj, Kavčič, and Klinc), A., 908.

determination of (RASK), B., 311.

determination of, in confectionery products (GROSSFELD), B., 456.

determination of, polarimetrically, in marzipan substitutes (Gronover and Wohnlich), B., 614.

determination of, in meat products (Jahn), B., 614. determination of, in potatoes (Rankoff), B., 590.

Starch paste, viscosity and flow-elasticity of (FREUNDLICH and NITZE), A., 413.

Starch products, manufacture of (Stern), (P.), B., 612.

Starfish, hydrogen-ion concentration in, and its relation to metabolism (IRVING), A., 71. eggs of. See under Eggs.

Stark effect (Buchwald), A., 83; (Manneback), A., 180. in helium (Foster), A., 179; (Dewey), A., 180.

in hydrogen (Wierl; Slack), A., 391. Stark-Luneland effect (WEIGL), A., 180.

Stavesacre. See Delphinium staphisagria.

Steam. See Water vapour.

Steam-distillation plants, working of (METALLBANK & METALLUR-GISCHE GES. and GENSECKE), (P.), B., 688.

Stearic acid, sodium salt, imitation of organic forms with (HER-RERA), A., 1222.

Stearic acid, n-butyl ester (VAN SCHAACK), (P.), B., 237.

ethylamide, and aa-dichloro-, and its derivatives (v. Braun, JOSTES, and MUNCH), A., 548.

Stearic acid, θιλμ-tetra bromo-, salts of (ORETA and WEST), A., 959. hydroxy-, and its derivatives, from hen bile (WINDAUS and van Schoor), A., 272.

εζ-dihydroxy-, methyl ester (Hilditch and Jones), A., 540. i-iodo- (D'Ambrosio), A., 176.

a-thiol- (NICOLET and BATE), A., 977.

Stearic acids, hydroxy-, and their methyl esters, synthesis of (Tomecko and Adams), A., 339.

Stearodimargarins (THOMSON), A., 540.

Stearolactone, velocity of hydrolysis of, with alcoholic alkalis (Kailan and Blumenstock), A., 1148.

30

Stearolyl alcohol, and its derivatives (André and François), A., 958.

Stearylsalicylic acid (KAUFMANN), B., 155.

Stellite, improvement of properties of (Deutsch-Luxemburgische BERGWERKS. & HÜTTEN-A.-G. and BAUERFELD), (P.), B., 491. Stencil sheets (HORII), (P.), B., 873*.

Stereochemistry, foundations for (Weissenberg), A., 9; (Hückel), A., 129.

principles of (v. Stackelberg). A., 1011.

studies in (HOLMBERG), A., 1169.

Stereoisomerism (Senior), A., 226; (Hahn), A., 748.

Steric hindrance (Swarts), A., 226; (VAVON and CALLIER), A., 455; (Callier), A., 761.

Sterilisation of liquids (SCHREIER and GEN. ZEOLITE Co.), (P.), B., 830*.

Sterol, C₂₇H₄₆O, and its salts and derivatives, from Asclepias syriaca (Sohmid and Stohr), A., 248.

Sterols from Asclepias syriaca (Sommo and Ludwig), A., 1194. phosphorus derivatives of (v. Euler and Bernton), A., 1066. colour reactions of, in relation to vitamin-A (ROSENHEIM),

Stibine. See Antimony trihydride.

A., 486.

Stichopus japonicus (sea-slug), analysis of (Lin and Chen), A., 691.

Stilbene, kinetics of addition of bromine to (BERTHOUD and Béraneck), A., 528.

derivatives of (ASHLEY), A., 53.

Stilbene, p-bromo-, and its dibromide, and p-mono- and 4:4'-dichloro- (Anschütz), A., 750.

2'-chloro-2:4-dinitro- (Robinson and Zaki), A., 1184.

2:4:4'-trinitro- (NISBET), A., 1063.

ω-Stilbene, 4'-dinitro. See Benzylidenephenylnitromethane,

Stilbene-2:2'-disulphonic acid, and 4:4'-diamino-, 4:4'-dinitro-, and 4:4'-dinitro-ω-bromo-, salts and derivatives of (Ruggli and Peyer), A., 48.

Stills, apparatus for heating (White and Texas Co.), (P.), B., 323; (English and Hannan), (P.), B., 545.

apparatus for removing coke deposits from (Texas Co.), (P.), B., 674.

coking (Cross and Gasoline Products Co.), (P.), B., 769.

glass, for water (KRETCHMAR), A., 437.

mercury (Bronson), A., 849.

oil (Bell and Sinclair Refining Co.), (P.), B., 180, 386; (Lasher and Kansas City Gasoline Co.), (P.), B., 386.

oil-cracking (HERTHEL and SINCLAIR REFINING Co.), (P.), B., 210.

pipe, for continuous laboratory distillation (АSHWORTH), В., 693. petroleum (Du Pont and DELAWARE CHEMICAL ENGINEERING Co.; Rowe), (P.), B., 162.

Stirring apparatus, laboratory (Müller), A., 438.

Stock, value of foodstuffs for fattening (Hansson and Fingerling),

Stone or Stones, decay of (Scientific and Industrial Research), B., 411.

preservation of (Laurie), (P.), B., 77*; (Anderson), (P.), B., 525.

evaporation of water and salt solutions from (LAURIE and MILNE), B., 443.

artificial (Hessellwitz and Continsouza), (P.), B., 190; (JAKOB), (P.), B., 334*; (WELCR), (P.), B., 444.

manufacture of (TANNER and ARTSTONE BURIAL VAULT Co.), (P.), B., 221; (ABREY), (P.), B., 703; (HARNISCH), (P.), B., 750; (SCHOENHOEFER), (P.), B., 781*.

from blast-furnace slag (Schoenhoefer), B., 938. mould for blocks of (SCHAEFER), (P.), B., 444.

production of polished surfaces on (Prosic), (P.), B., 484. grinding, manufacture of (MENZIONE and MAYER), (P.), B., 76. precious, synthesis of (Ruff), (P.), B., 108*.

volcanic, production of cast articles from (Krüger), (P.), B., 412.

Stone crushers, jaws for (BECHGAARD), (P.), B., 128.

Stoneware, colouring of, with cobalt sulphate (ALZNER), B., 332. resistant to perforation by electric sparks, manufacture of (Singer), (P.), B., 908.

Storch's equation (FERGUSON and VOGEL), A., 936.

Straw, bacterial decomposition of (WAKSMAN and TENNEY), B., 22. decomposition of, and its nutritive value when decomposed (HONCAMP), B., 698.

production of cellulose and paper from (RINMAN), (P.), B., 873.

Strawberry plants, influence of reaction of medium on growth of (Morris and Crist), A., 1225.

Strawboard, manufacture of (Pennington and Davis), (P.), B., 406, 873*.

Streptococci, tissue-digesting enzyme of (Fobisher), A., 379. phosphates in relation to growth of (WHITEHEAD), A.,

Streptococcus lactis in butter (SADLER), B., 425.

Streptothrix, effect of composition of medium and surface tension on growth of (READER), A., 903.

Stromboli, lava from (Donati), A., 129.

Strontianite, infra-red absorption spectrum of (RAWLINS, TAYLOR, and RIDEAL), A., 5; (RAWLINS and RIDEAL), A., 1006. Strontium, spectrum of (Kichlu and Saha), A., 802.

potential of (LATIMER), A., 941.

duration of light emission for (Kerschbaum), A., 707. Strontium carbonate, dissociation pressure of (DUTOIT), A., 416.

chloride, ultra-violet absorption spectrum of solutions of (VITERBI), A., 1122.

iodide, dispergation of cellulose in solutions of (v. Weimarn and JUNA), A., 824.

oxide, action of, on aluminosilicates (GARRE), A., 842. sulphate, precipitation of (v. Weimarn), A., 518.

Strontium detection and determination :-

detection of, spectrochemically (HUKUDA), A., 745. determination of, and its separation from barium and calcium (Szebellédy), A., 223.

isoStrophanthic acids, isomeric, and their derivatives (JACOBS and Gustus), A., 1195.

β-isoStrophanthidic acid (Jacobs and Gustus), A., 1195.

a-isoStrophanthidindiacid, methyl esters (JACOBS and GUSTUS), A., 1195.

Strophanthidinic acid, derivatives of (JACOBS and GUSTUS), A., 1194.

a-isoStrophanthidinic acid, methyl ester (JACOBS and GUSTUS), A., 1195.

Strophanthidonic acid, methyl ester, and its derivatives (JACOBS and Gustus), A., 1194.

Strophanthin (Jacobs and Gustus), A., 1194.

isoStrophanthonic acid, isomeric, methyl esters of, and their derivatives (JACOBS and GUSTUS), A., 1195.

Strophanthus, assay of, colorimetrically (Rowe), B., 346.

Strychnic acid, mixed anhydride from (Oxford, Perkin, and Robinson), A., 1209.

Strychnidine salts (Clemo, Perkin, and Robinson), A., 888. Strychnidine, p-amino-, and its azo-derivatives (Oxford, Perkin, and Robinson), A., 1209.

isoStrychnidine, and its methosulphate (Oxford, Perkin, and Robinson), A., 1209.

Strychnidone, and its derivatives (CLEMO, PERKIN, and ROBINSON), A., 888.

alloStrychnidone (CLEMO, PERKIN, and ROBINSON), A., 889. Strychnine (Oxford, Perkin, and Robinson), A., 1208.

and its salts (CLEMO, PERKIN, and ROBINSON), A., 888; (GUL-LAND, PERKIN, and ROBINSON), A., 889.

manufacture of, from Nux vomica (Watson and Sen), B., 427. poisoning. See under Poisoning.

changes in blood in convulsions due to (v. MIKO and PALA),

aluminotrioxalate (WAHL and ANDERSIN), A., 340.

distearins and their salts (GRÜN and LIMPÄCHER), A., 226. fluoborate (WILKE-DÖRFURT and BALZ), A., 238.

fluorosulphonate (LANGE), A., 532.

n- and iso-Strychnines, and their derivatives, and their reduction (Oxford, Perkin, and Robinson), A., 1208.

Styphnic acid, compounds of, with aniline and nitroanilines (Efremov), A., 1179.

Styracyl-2-phenyl-1:4-benzopyran-3-carboxylic acid, 4-o-chloro-, ethyl ester (Heilbron and Hill), A., 565. Styrene, recovery of, from carburetted water-gas drip-oil (Brown),

(P.), B., 962. coloured polymerides of (Ostromisslenski and Naugatuck

CHEMICAL Co.), (P.), B., 635.

m-Styrene, Röntgen-ray structure of (Hünemörder), B., 340. Styrene, β -nitro-, reactions of, with amines and hydrazines (WORRALL), A., 761.

2-Styryl-6-p-acetamidophenylquinoline-4-carboxylic acid (Berlin-GOZZI and TURCO), A., 674. 2-Styryl-1:3-benzdithiole (HURTLEY and SMILES), A., 466.

Styrylcarbamide (Jones and Mason), A., 1185.

Styrylcarbimide (Jones and Mason), A., 1185.

2-Styryl-3-methylbenzopyrylium salts, 2-o-hydroxy- (DE), A.,

chloride, 2-o-hydroxy-, and its salts, and 7-hydroxy-2-2':4'-dihydroxy-(DE), A., 974.

Styryl-5-methyl-3:4-coumalo-6-benzopyrans, 2-chloro- (Heilbron and HILL), A., 565.

Styryl methyl ketone, benzyldithiocarbazinate and thiosemicarbazones (Bose and CHAUDHURY), A., 769.

Styryl methyl ketone, p-hydroxy-, and its derivatives (MANNICH and Merz), A., 556.

Styryl methyl ketones, intermolecular condensation of (Dickinson, Heilbron, and Irving), A., 971.

3-Styryl- β -naphthapyrylium chloride, and p-hydroxy- (Dickinson and Heilbron), A., 251.

Styrylphthalamic acid (MANNICH and WALTHER), A., 562. Styrylphthalimide (Mannich and Walther), A., 562.

3-Styrylpyrazole-5-carboxylic acid, ethyl ester (Borsone and

Peter), A., 571.

Styrylpyridine, 4:6-dichloro-5-eyano-, dimeride of, and 4:6-di-chloro-5-eyano-2-m-chloro-, 4:6-dichloro-5-eyano-2-m-nitro-, chloro-5-cyano-2-m-chloro-, and 4-chloro-2-hydroxy- (Koller), A., 1085. Styrylpyrylium salts (Dickinson and Heilbron), A., 251, 884.

2-Styrylquinoline-4-carboxylic acid, derivatives of (John), A., 1200.

Sub-electrons, existence of (REISS), A., 5; (MATTAUCH), A., 87; (EHRENHAFT), A., 394.

theory of (PECZALSKI), A., 710.

Suberic acid, conditions of formation of, from ricinoleic acid (Verkade), A., 447.

Sublimation apparatus (Benvegnin), A., 335; (Field and Nat. Aniline & Chemical Co.), (P.), B., 897. vacuum (Tiedemann), A., 37; (Wagenaar), A., 128.

Submarine objects, indication of presence of (Bonniksen and BARRATT), (P.), B., 719.

Subscils, mineral, effect of hydrochloric acid treatment on lime requirements of (MILNE), B., 309.

Substance, C₂O₂Br₆S, from egg-albumin and alkaline hypobromite (Goldschmidt, Wiberg, Nagel, and Martin), A., 984.

C4H5Cl3Br2, from phosphorus pentabromide and trichlorotert .butyl alcohol (Swarts), A., 442.

C4H8ON6, and its amidoxime, from azoimide, methylcarbimide, and tricthylphosphine (SLOTTA and TSCHESCHE), A., 548.

C4H8N8S2, and its isomerides, and their salts, from toluidines and thiosemicarbazide (MACUREVITSCH), A., 777.

 $C_5H_8Br_4$, from phosphorus trichlorobromide and the acetal of

isovaleraldehyde (Kirrmann), A., 442. C₅H₁₀O₃N₄, and its peroxide, from carbamide and methylglyoxal (Seekles), A., 365.

C₆H₁₂O₃, from hydrolysis of oxide from diallyl and perbenzoic acid (BÖESEKEN), A., 39.

C7H11O3N, from chloroacetyl-d-valine and phosphorus penta-

chloride (Abderhalden and Rossner), A., 652. C₈H₄I₂, and its derivatives, from βε-dimethyl-Δγ-hexinenc-βε-diol and hydriodic acid (Salkind, Rubin, and Krublov), A., 443.

C₈H₁₃O₃N, from chloroacetyl-l-leucine and phosphorus pentachloride (Abderhalden and Rossner), A., 652.

CoH10O5, from decomposition of ethylene malonato (TILITснееу), А., 340.

 $C_9H_{12}ONBr$, and its chloroplatinate, from 2-methylpyridine and bromoacetone (Tschitschibabin), A., 885.

C₁₀H₁₂O₃, from oxidation of santonin (MEDVEDEV), A., 1194. $C_{10}H_{14}O_6$, from acetone, zine chloride, and tartaric acids (Fischer and TAUBE), A., 338.

C₁₀H₁₆O, from acetic anhydride, d-pinene, and sulphuric acid (EBEL and GOLDBERG), A., 1168.

C10H10O2, and its semicarbazone, from distillation of pulegone oxide (PRILESCHAEV), A., 670.

 $C_{10}H_{18}O_2$, from distillation of parsley-seed oil (van Loon), A.,

 $C_{10}H_9O_2N_3$ (Sircar), A., 756. C₁₀H₁₀NCl, from p-cymene and sulphurylazide (Bertho,

CURTIUS, and SCHMIDT), A., 1086. C₁₀H₁₃O₃N₃, from o-aminobenzhydrazide and ethyl chloroformate (Heller and Siller), A., 677.

C₁₀H₁₁O₄NS from action of ammonium sulphite on 1:4-dihydroxynaphthalene (Fucus and Рикак), А., 53.

C10 H13O5 N3S, from action of acetic anhydride and sulphuric acid on p-diazoiminobenzene hydrochloride (GRAY), A., 143.

Substance, $C_{10}H_{14}O_4N_2S$, from action of ammonium sulphite on 4-amino-a-naphthol (Fuchs and Pirak), A., 53.

C₁₁H₂₀O₇, and its derivatives, from exidation of tetramethylfructose (HAWORTH, HIRST, and LEARNER), A., 649.

C11 H9ON from action of formic acid on 2-phenylmethylamino-3-keto-5-phenyl-2-methylpyrroline (DIELS, BUDDENBERG, and Wang), Å., 253.

 $C_{11}H_2O_2N_3$ (Sircar), A., 756. $C_{11}H_{12}O_3N_2$, from condensation product of anthranilic acid and allylthiocarbimide (Rossi), A., 1207. C11H17ON, from o-tolyl a-camphornitrilate and magnesium

methyl iodide (Salmon-Legagneur), A., 1081.

C₁₂H₁₄ON₂, from 2-acetyl-6-methylcyclohexanones and cyano-acetamide (SEN and BOSE), A., 774.

C₁₂H₁₄O₂N₂, from ar-β-aminotetrahydronaphthalene, hydroxylamine, and chloral hydrate (v. Braun and Zobel), A., 258. C₁₂H₁₆O₂N₂, and its hydrochloride, from diacetyl and magnesylpyrrole (Narysonkin), A., 1089.

C12H21ON, from methyl a-camphornitrilate and magnesium ethyl bromide (SALMON-LEGAGNEUR), A., 1082.

 $C_{12}H_{13}O_4NCl_4$, from ethyl 3:5-dimothylpyrrole-2:4-dicarboxylate, hydrogen peroxide, and hydrochloric acid (Küster and Koppennöfer), A., 1094.

C₁₂H₁₅O₄NBr₂, from ethyl 3:5-dimethylpyrrole-2:4-dicarboxylate, hydrogen peroxide, and hydrobromic acid (Küster and Koppeniiöfer), A., 1094.

C₁₃H₂₀O₂, and the corresponding acid, and its derivatives, from trans-I-ketodecahydronaphthalene (Hückel and Wiebke),

 $C_{13}H_{14}O_2N_2$, from hydroxymethylene compound of mesityl

oxide (Benary), A., 573. C14H10O7, from action of sulphuric acid on xanthophanic acid (FEIST, DELFS, and LANGENKAMP), A., 151.

C₁₄H₁₀O₃N₂, from o-nitrophenylacetylene and nitrosobenzene in ether (Alessandri), A., 572.

C₁₄H₁₂ON₂, by action of sodium carbonate on methyl o-aminobenzaldehyde-N-carboxylate (v. Auwers and Frese), A.,

C14H15O2N, from condensation of formaldehyde and phenol (Snono), A., 456.

C₁₄H₁₈O₂N₂, from ethyl cyanoacetate and cryptopyrrolealdehyde (FISCHER, HALBIG, WALACH, SCHUBERT, and OSSEN-BRUNNER), A., 470.

C14H14ONBr4, from phenacyl bromide and 2-methylpyridine (TSCHITSCHIBABIN), A., 885.

C15H14O2, from tar from silver distillation of technical Willstätter lignin (Fucнs), А., 546.

C15 H14O8, from action of magnesium methoxide on ethylxanthophanic acid (Weiss and Woldich), A., 251.

C₁₅H₁₈O₄, from 3-isobutyryl-o-cresol and acetic anhydride (v. Auwers, Baum, and Lorenz), A., 670.

C₁₅H₂₈O, from reduction of cyclopentanone (Zelinski, Titz, and FATEJEV), A., 47.

C15H30O3, and its acetate, from hydrogenation of ngaiol (Mc-Dowall), A., 566.

C₁₅H₁₂N₂O, and its additive compound with silver nitrate, from action of heat on a-benzoyl-\beta-p-toluoylhydrazine (GILBERT), A., 238.

C16H12O4, from action of acetylacetone on p-benzoquinone (IONESCU), A., 1079.

 $C_{16}H_{18}O_3$, from oxidation of 1-cyclohexyl- β -naphthol (Alberti), C10 H15 O4 N5, from action of potassium cyanate on o-amino-

benzaldoxime (v. Auwers and Frese), A., 160.

C₁₈H₁₆N₈S₂, and its silver salt, from aniline and thiosemicarbazide (MACUREVITSCH), A., 777.

C16H19O2N, from action of pyruvic acid on benzylidenecyclohexylamine (Skita, Wulff, Fehr, Winterhalder, and MEETZ), A., 157.

C₁₆H₂₁O₃N, from condensation of benzylidenepyruvic acid with cyclohexylamine (Skita and Wulff), A., 765.

C₁₈H₁₉O₇NS₂, from p-benzylideneaminophenyl acetate and methyl sulphate (GALATIS), A., 762.

C₁₇H₁₃Cl₂Br₃, from action of magnesium isopropyl bromide on 1:5-dichloroanthrone (BARNETT, COOK, and MATTHEWS), A.,

C₁₇H₁₈ON₂, from cryptopyrrolcaldehyde and oxindole (Fischer, Halbig, Walach, Schubert, and Ossenbrunner), A., 470. C17H20O3N2, from ethyl trianhydroglucosecycloacetoacetate and phenylhydrazino (West), A., 1173.

Substance, C₁₇H₂₂ON₈S₂, from phenylhydrazodithiodicarbonamide and o-toluidine (MACUREVITSCH), A., 777.

C₁₇H₂₈O₁₂N₄Cu₂, from catalytic decomposition of collagen (SADIKOV), A., 754.

C₁₈H₁₁N₆, and its acetyl derivative from 5-amino-1-phenyl-benztriazole (FRIES and ARNEMANN), A., 779.

 $C_{1a}H_{20}O_2$, from as-phenylmethylethylene glycol (Danilov and Venus-Danilova), A., 662.

C₁₈H₂₂O₈, and its derivatives, from reduction of diethylxanthophanic acid (Feist, Delfs, and Lancenkamp), A., 152.

C18H28O2, from action of sodamide on cyclohexanone (CORNU-BERT), A., 666.

 $\rm C_{18}H_{15}O_{5}N,$ and its iodide, from 2-carbomethoxy veratrylidene derivative of piperonylmethyltrimethylammonium iodide and sodium methoxide (Malan and Robinson), A., 1200.

 $C_{18}H_{20}O_3Br_2Mg$, from benzil and magnesium bromide (Gomberg and Bachmann), A., 1190.

 $C_{18}H_{24}O_2N_8S_2$, from o-toluidine and thiosemicarbazide (Maoure-

VITSCH), A., 777. C₁₈H₁₈O₂N₂SCl₂, from methylmalondi-p-tolylamide and sulphur dichloride (Nлік and Јарпау), А., 444.

 $C_{19}H_{20}N_4$, from dimethylcyanamide and magnesium benzyl chloride (Vuylsteke), A., 346.

C₁₉H₁₇O₇N₃, from dehydrogenation of tetracyclosqualene (HARVEY, HEILBRON, and KAMM), A., 130.

 $C_{19}H_{22}O_2N_2$, from action of dimethylamine on $a\beta$ -dibromo- $a\beta$ dibenzoylethane (Lutz), A., 59.

C₁₉H₂₄ON₂, from action of heat on potassium yohimboate (WARNAT), A., 682.

 $C_{20}H_{20}O_{12}$, from reduction of lactone from condensation of pyruvic acid with paraformaldehyde (Feofilaktov), A.,

from latex of Cichorium intybus (Zellner), A., 598.

C₂₀H₁₀O₄N, and its isomer, from dihydrocorycavine iodide

(Späth and Holter), A., 1097. $C_{20}H_{19}O_5N$, from ethyl acetyl-1:6-dimethylnaphthalenedicarboxylate and nitric acid (Feist, Janssen, and Chen), A., 358. $C_{20}H_{19}O_3N_2Cl$, from action of phosphoryl chloride on 4-chloro-2:6'-diacetamido-3':4'-dimethoxystilbene (ASILEY), A., 53. $C_{21}H_{16}O_2$, from p-tolyl diphenylacetate and aluminium chloride

(v. Auwers, Baum, and Lorenz), A., 671.

C21H21O4N3S, from 2:7-dihydroxynaphthalene, sulphurous acid

and phenylhydrazine (Fuchs and Niszel), A., 257. C₂₁H₂₁NBr₅Sb, from tri-p-tolylamine, phosphorus tribromide and bromine (Weitz and Schwechten), A., 351.

C22H18Op, and its acetyl derivative, from action of hydrochloric acid on scoparin (HEMMELMAYR and STREHLY), A., 248. $C_{22}H_{18}N_4$, by action of phenylhydrazine on salts of 1:2-dihydro-

naphthalene-1-sulphonic acid (Fuchs and Pirak), A., 53. C₂₂H₂₂O₅N₂, from action of carboxyethylcarbimide on 3-keto-5-phenyl-2-methylpyrroline-2-benzyl ether (Diels, Budden-

BERG, and WANG), A., 253. C₂₂H₃₀O₁₄Br, from arabinose (Gehrke and Aichner), A., 545. C₂₂H₄₇O₂N₅, from dissamylcarbamylazide and tetrahydronaphthalene (Stollé, Nieland, and Merkle), A., 1204.

C22H26ONBr, from methyl a-camphornitrilate and magnesium phenyl bromide (Salmon-Legagneur), A., 1081.

C₂₂H₁₇O₂N, from 4-p-aminoanilino-2-naphthyl benzoate and nitrous fumes (Fucus and Niszel), A., 1184.

C21H34O5, and its derivatives, from dimeric crotonaldehyde, dimethyldihydroresorcinol, and piperidine (Ionescu), A.,

C₂₆H₁₇N₅, from benzil and 4:5-diamino-2-phenylbenztriazole (FRIES, SUDHOFF, and BRETTSCHNEIDER), A., 778.

C₂₆H₄₄O₂Cl₅, and its nitro-derivative, from dehydrogenation product of cholesterol and chlorine (Montignie), A., 556.

C27H22ON4, from condensation of o-aminobenzaldehyde and β -phenylhydroxylamine (Bamberger), A., 361. C₂₉H₂₀O₄, from 2-chloroacetoxydiphenyl and aluminium chloride

(v. Auwers, Baum, and Lorenz), A., 671.

C23H26S, from action of heat on methyl benzyl xanthate (NAMET-KIN and Kursanov), A., 241.

C₂₈H₂₈ON₄, from oxidation of octamethylporphin (Fischer, Halbig, and Walacii), A., 469.

 $C_{30}H_{22}N_{12}$, from glycosine and benzenediazonium chloride (LEHMSTEDT and BAHN), A., 979. C₃₀H₄₀O₈, from oxidation of novic acid (WIELAND and ERLEN-

васн), А., 563. C₃₀H₅₂O from rhododendron leaves (FEYERTAG and ZELLNER), A., 386.

Substance, $C_{30}H_{16}Cl_4Br_2$, from action of copper in xylene on 1:5-dichloro-10-bromo-9-bromomethylene-9:10-dihydroanthracene (BARNETT, COOK, and MATTHEWS), A., 141.

C₃₁H₃₂O₃, from ethyl a-methyl-a'-ethyl diglycollate and mag-

nesium phenyl bromide (GODCHOT), A., 444. $C_{31}H_{22}O_2N_6$, and its diacetate, from benzaldehyde and 5-hydroxy-2-phenylbenztriazole (FRIES, SUDHOFF, and BRETTSCH-NEIDER), A., 778.

 $C_{32}H_{32}O_4N_g$, from methylenedi-indone and 1-phenyl-3-methyl-5-pyrazolone (Ionescu and Georgescu), A., 881.

C₃₂H₄₂O₂N₄, and its hydrochloride, from reduction of ætio-xanthoporphinogen (FISCHER and TRIEBS), A., 1207.

C₃₂H₂₀O₂N₂SBr₂, from action of sulphur dioxide on 4-o-bromobenzeneazonaphthalene-1-diazonium chloride (Tröger and Bertram), A., 142.

 $C_{34}H_{21}O_5N_3$, from 2-aminoanthraquinone and nitrobenzene (Bucherer and Maki), A., 1191.

 $C_{36}H_{38}O_8N_4$, from 4-carbethoxy-3:5-dimethylpyrrole-2-carboxylic acid, hydrobromic acid, and hydrogen peroxide (Küster and Koppenhöfer), A., 1094.

C₃₆H₃₄O₈N₄Br₄, from 4-carbethoxy-3:5-dimethylpyrrole-2-carboxylic acid, hydrobromic acid, and hydrogen peroxide (Küster and Koppenhöfer), A., 1094.

C₃₇H₂₀O₆, from diketohydrindene and methyleneanhydrobis-diketohydrindene (Ionesou), A., 669.

 $C_{37}H_{53}O_2$ Br, from action of bromine on β -benzoate of β -amyrin (ROLLETT), A., 248.

 $C_{40}\Pi_{23}O_5N_3$, from nitrobenzene and aminoanthraquinone (Bucherer and Maki), A., 1192.

C45H24O5, from anhydrobisdiketohydrindene and piperidine

(IONESCU), A., 669. C₄₉H₂₇O₇N₃, from aminoanthraquinone and o-nitrotoluene (Bucherer and Maki), A., 1192.

 $C_{60}H_{56}O_4N_8$, from dimethylbenzidine and carbonyl chloride

(Kuhn, Jacob, and Furter), A., 870.

C₀₀H₅₄O₅, from 2:5-diphenyl-3:6-dibenzyl-p-benzoquinone and sodium ethoxide (Scheibler and Mahboub), A., 357.

C₆₈H₄₀O₉N₆, from 2-aminoanthraquinone and p-nitrosophenol (BUCHERER and MAKI), A., 1192. Substitution and addition (MEISENHEIMER), A., 957.

influence of, in the aromatic nucleus (v. Auwers and Bull-MANN), A., 144.

in aromatic compounds, directive power of groups in (Baker and Wilson; C. K. and E. H. Ingold and Shaw), A., 550; (COOPER and INGOLD; BAKER and INGOLD), A., 558; (OXFORD and Robinson), A., 1065; (Baker and Eccles), A., 1068; (FAWCETT and ROBINSON), A., 1181; (CLARKE, ROBINSON, and SMITH), A., 1183.

Succinic acid, manufacture of (ZAIDAN HOJIN RIKAGAKU KEN-KYUJO and YABUTA), (P.), B., 268.

second dissociation constant of (Duboux and Frommett), A., 515.

dehydrogenation of (HAHN and HAARMANN), A., 1169.

crystallisation of derivatives of (VISEUR), A., 312. formation of, in muscle and liver and its determination

(CLUTTERBUCK), A., 693. in muscle and its relation to malic and fumarie acids (NEED-

IIAM), A., 790. Succinic acid, bromo-, autocatalytic decomposition of (ZAWIDZKI

and WYCKALKOWSKA), A., 214. Succinic acids, arylated, radical dissociation of derivatives of

(Löwenbein and Schmidt), A., 1072. halogeno-, hydrolysis of (Holmberg), A., 1169.

hydroxy-, substituted, action of catalysts on, under high pressure of hydrogen and at high temperatures (RAZUBAIEV), A., 1054.

Succinic anhydride, preparation of (I. G. FARBENUND.), (P.), B., 924. Succinimides, substituted, rates of hydrolysis of (SIRCAR), A., 756. Succino-dehydrase (BACH and MICHLIN), A., 591.

Succinyl chloride, dibromo- and dichloro- (Lutz), A., 565. peroxide, thermal decomposition of (Reynhart), A., 357.

Succinylhydrazobenzene (KAUFMANN), B., 155. Succinylphenolphthalein (KAUFMANN and HAAS), A., 1083.

Sucrose (saccharose; cane-sugar) (Helderman), A., 1174. constitution of (Avery, Haworth, and Hirst), A., 1057.

y-fructose residue in (HAWORTH, HIRST, and NICHOLSON), A., 859. crystallisation of (Kukharenko and Verkentin), A., 341; (Kukharenko and Benin), A., 820; (Kukharenko and Krasil'shchikov), B., 567; (Kukharenko and Savinov), B., 730; (Kukharenko and Kartashev), B., 952. Sucrose, vapour pressures of mixtures of methyl acetate, water, and (McKeown and Stowell), A., 206.

simultaneous adsorptiou of colouring matters and, by carbon (Vašátko), B., 952.

hydration of, in solution (Kolthoff), A., 21.

inversion of, by acids (Colin and Chaudun), A., 26, 115, 835; (HANTZSCH and WEISSBERGER), A., 525.

non-inversion of, by acids adsorbed in charcoal (MILLER and BAUDEMER), A., 821.

hydrolysis of, by invertase (PAINE and BALCH), A., 525; (INGERSOLL), A., 901.

ionisation of compounds of alkali and alkaline-earth hydroxides with (ATEN, VAN GINNEKEN, and ENGELHARD), B., 23.

relative sweetening power of lavulose and (Spengler and Traegel), B., 311.

recovery of, from cane-sugar molasses (Watson, Mukerjee, GUPTA, and CHATURVEDI), B., 23.

identification of, in presence of invert sugar and other carbohydrates (Schlemmer), B., 664.

tests on relative sweetness of lavulose and (WILLAMAN), B., 664. determination of, in beet, in presence of invert-sugar (Stanek and Vondrák), B., 538.

determination of, in dried beetroot cossettes (EYNON and LANE), B., 423.

determination of, in condensed milk (RICHMOND), B., 827. See also Sugar.

Sugar, manufacture of (LEONARD), (P.), B., 122*; (BATTELLE),

(P.), B., 920. from cellulosic materials (Färber and Internat. Sugar &

ALCOHOL Co.), (P.), B., 23. from molasses (Steffen), (P.), B., 500; (Waterman and

VAN AKEN), B., 919.

carbonatation in (ATEN, VAN GILSE, and VAN GINNEKEN), B., 23.

centrifugal machine for use in (Leuký), (P.), В., 612.

refining of (Gambel), (P.), B., 234.

heat-treatment of spent bone-char and similar materials used in (Burroughs), (P.), B., 921. stallisation of, from strongly supersaturated solutions

crystallisation of, (Šandera), B., 664.

dry defecation of (FILIP'EV), B., 567.

adsorbent decolorising medium for (DAVIS), (P.), B., 312.

oxidation of, to osones (CHEM. FABR. VORM. SCHERING and KRAISY), (P.), B., 924.

fermentation of, for production of alcohol and of yeast (JANSEN), (P.), B., 568.

production of glycerin from, by fermentation in an alkaline medium (K. and N. LÜDECKE), (P.), B., 921.

compound of lime and (STEFFEN), (P.), B., 264.

in blood. See under Blood.

in urine. See under Urine.

beet, use of hyposulphites in manufacture of (MESTRE), B., 537, 711.

spectrometric measurements in manufacture of (Lundén), В., 395.

decolorisation of thin-juice in manufacture of, by activated carbon (LINSBAUER), B., 730.

lime problems in manufacture of (Shafor), B., 499.

recovery of substances from waste liquors in manufacture of (LARROWE CONSTRUCTION Co.), (P.), B., 423.

feeding tests with additions of (JAGODA), B., 668.

storage of, by drying (Benin), B., 952.

raw, valuation of, in respect of its affinability (Spengler and Brendel), B., 730.

determination of, by the hot-water digestion method (SPENG-LER and BRENDEL), B., 234.

beet and cane, extraction plant for (CAMUSET), B., 664.

brown, improvement of colour of (Welles), (P.), B., 538. cane, evaporating and heating in factories for (CONNON), B.,

raw, refining value of (WAYNE), B., 536.

extraction of wax from residues of (DUNMAN and LEGG),

direct-consumption Mauritius, determination of sulphur dioxide in (Baissac), B., 952.

German consumption, content of sulphur dioxide in (Spengler

and Brendel, B., 686. granulated, adsorption of moisture by (Shirko-Parkhomenko),

electrical determination of ash in (NEES), B., 637.

Sugar, icing, manufacture of (Ackers), B., 665.

invert., decomposition of, by lime (ČLYROKÝ), B., 638. white, manufacture of (MURRIE), (P.), B., 499.

determination of, in beet (LE DOCTE), B., 920.

determination of, in carbonatation scums (Kunz), B., 234: (ORTH), B., 711

Sugars, oxygen bridges in (MICHEEL and HESS), A., 43, 1056. formation of, by formaldehyde condensation (SCHMALFUSS), A., 648.

preparation of, from sawdust (Hägglund), B., 137.

synthesis of (Helferich and Rauch), A., 44, 859; (Helferich and Schäfer), A., 136.

manufacture of, from cellulosic materials (RÖMER and PINK), (P.), B., 24.

purification of solutions of (DAVIS), (P.), B., 312.

absorption of ultra-violet light by aqueous solutions of (NIEDERпогг), А., 724.

rotation of, and their derivatives (BRAUNS), A., 93.

and their derivatives, rotation and structure of (HUDSON), A., 230.

luminescence of, and of their factory products (Šandera), B., 685.

reduction potentials of (AUBEL, GENEVOIS, and WURMSER), A., 316.

electrolytic reduction of, to alcohols (CREIGHTON and ATLAS POWDER Co.), (P.), B., 234.

reducing power of (van Eck), A., 545.

oxidation of, to osones (CHEM. FABR. VORM. SCHERING), (P.), B., 619.

influence of metals on the rate of auto-oxidation of (KREBS), A., 341.

behaviour of, in alkaline solution (GROOT), A., 341.

condensation of, with proteins (Sörensen and Lorber). A., 547.

discoloration of, at high temperatures in absence and in presence of other substances (Spengler and Tödt), B., 887.

fermentation of (LEBEDEV), A., 902. and their combination with phosphoric acid (v. EULER and

Brunius), A., 76. by bacilli (VIRTANEN and SIMOLA), A., 701.

on a trickling filter (WATKINS), A., 593. formation of acids in oxidation of, by fungi (BUTKEVITSCH).

formation of organic acids from, by Aspergillus niger (CHAL-LENGER, SUBRAMANIAM, and WALKER), A., 593.

rendered optically inactive, action of yeast on (Fernbach, Schoen, and Mori), A., 279.

bitter taste of derivatives of (Brigh and Scheyer), A., 43. reactions between amines and (v. Euler and Brunius), A., 135. amino-derivatives of (v. Euler and Brunius), A., 547.

carbonates of (Allpress, Haworth, and Inkster), A., 752. constitution of the monocarboxylic acids derived from (PRYDE and HUMPHREYS), A., 449.

furan compounds from (KARASHIMA), A., 1107.

lactones derived from (DREW, GOODYEAR, and HAWORTH), A., 750.

isopropylidene derivatives of (FREUDENBERG, NÖE, and KNOPF; FREUDENBERG and WOLF), A., 230; (OILLE and BEREND), A., 450; (FREUDENBERG and RASCHIG), A., 858.

biochemistry of (Robinson), A., 960, 1225; (Levene), A., 1225.

action of, in the organism (FISCHLER), A., 449, 486.

fate of, in the body (C. F. and G. T. Cori), A., 593, 790, 1106. effect of insulin on assimilation of (BASCH and POLLAK; POLLAK; PHILLIPS), A., 1115.

effect of insulin on assimilation and exerction of (EDA), A., 903. effect of partial pancreatectomy on excretion threshold for (EDA), A., 896.

methylated, reactivity of (Gustus and Lewis), A., 751.

reducing, production of, in formaldehydic liquids covered with olive oil and exposed to mercury are light (ROUSSEAU),

dynamic isomerism of (Lowry), A., 1148.

determination of, volumetrically (VAN DE KREKE), B., 638. detection of, in presence of proteins (Neuberg and Simon), A., 450.

determination of small quantities of (BAUDOUIN and LEWIN),

determination of sulphur dioxide in (HURST), B., 729. Sugar beet. See Bectroot, sugar.

Sugar cane, extraction of juice from (MAXWELL), (P.), B., 500; (Morgan), (P.), B., 538; (Morgan and Morgan), (P.), B., 921*. Sugar-containing materials, maceration of (Nobel), (P.), B., 264.

Sugar factory products, determination of amides in (VONDRAK),

electrical determination of ash content of (Šandera), B., 920. determination of hydrogen-ion concentration of (Spengler and

Торт), В., 685. Sugar factory waste-water, beet, invertase in (MATOUŠEK), B.,

Sugar-house incrustations (Schlegel and Manley), B., 537. Sugar industry, colour in (Peters and Pheles), B., 710. composition of lime used in (Kukharenko), B., 664.

Sugar juice, treatment of (SAVARY), (P.), B., 500.

purification of (ARSEM and INDUSTRIAL TECHNICS CORP.), (P.), B., 500; (Morizot), (P.), B., 888.

adsorption from, by a layer of active carbon (DEDEK and KACL), B., 920.

before decoloration of, by sulphurisation (CHALOUPKA), B., 920.

coagulation of colloids of (GILCHRIST & Co. and GRAHAM), (P.), B., 952.

mixing apparatus for liming (GILCHRIST & Co. and SHAFOR), (P.), B., 64.

evaporator for (VINCIK and TUREK), (P.), B., 500.

strainer for (PECK), (P.), B., 264*.

beet-, purification of, with chlorine (Spengler and Weiden-HAGEN), B., 537.

decolorisation of (HEUCLIN), (P.), B., 538.

destruction of sugar in evaporation of (ORTH), B., 234. after-darkening of, in the carbonatation process in beet factories (BRADA), B., 920.

thin, boiling up of (MAYER), B., 395.

cane, purification of (WATERMAN), B., 234.

preservation of (Balls), (P.), B., 792; (Haldane), B., 920. hydrogen-ion concentration in defecation of (PAINE and (Balch), B., 537.

recovery of sugar from (Petree and Petree & Dorr, Engineers), (P.), B., 538.

determination of phosphates in (Springer and Davies), B., 537.

Sugar liquors, production of, pure (Kullgren and Lind), (P.), B., 499.

purification of (Battelle), (P.), B., 920.

measurement of colour of, in Stammer units on a Kober-Klett colorimeter (RITCHIE), B., 952.

Sugar products, coloration of (Saillard), B., 395. effect of heat on (NAKHMANOVICH and ZELIKMAN), B., 711. amino-acids and related compounds in (Ambler), B., 920.

determination of ash in, electrometrically (Sandera), B., 312. determination of sulphur dioxide in (Ocilvie), B., 312. Sugar samples, desiccation of, in tins (Šandera), B., 729.

Sugar solutions, charcoal filtration of (RICE and MURRAY), B., 263,

clarification of (Seo), (P.), B., 122; (Balch), B., 311; (Peters and Phelps), B., 710.

boiling and evaporation of (BERTEN & Co.), (P.), B., 921. apparatus for concentration of (BERTEN & Co.), (P.), B., 928. crystallisation of (DEDEK and Novaček), B., 567.

precipitation of, with lime (WATERMAN and VAN AKEN), B., 919. de-liming of (VAN DER JAGT), B., 56.

influence of filter paper on polarisation of (VNUK), B., 395. concentrated, determination of viscosity of (DIAZ AGUIRRECHE), B., 760.

beet, error in polarisation of, produced by evaporation (KARGL), B., 920.

determination of sulphurous acid in (Mestre), B., 711.

Sulphanilic acid. See Aniline-p-sulphonic acid.

Sulphates. See under Sulphur.

Sulphato-compounds, use of, as antiseptics (Coplans and Green), A., 1220.

Sulphhydryl compounds, catalytic action of traces on iron and copper on anaërobic oxidation of (HARRISON), A., 527.

Sulphides. See under Sulphur. Sulphide ores. See under Ores.

Sulphide dyes, non-alkaline solutions of (I. G. FARBENIND.), (P.), B., 212.

Sulphites. See under Sulphur.

Sulphite liquors, manufacture of (RICHTER and BROWN Co.; Schneider), (P.), B., 814.

Sulphite liquors, treatment of (BRADLEY, MCKEEFE, and BRADLEY-McKeefe Corp.), (P.), B., 814.

reducing power of (Kurtz), B., 164.

testing of (SCHMIDT), B., 276.

wastes, use of, as plant sprays (FLEMING and REEDY), B., 328. Sulphite pulp, comparative cleanliness of (Crossley), B., 675.

bleached, strength testing of (GENBERG), B., 471. white, of high strength, production of (RICHTER and BROWN Co.), (P.), B., 746.

Sulphite spirit, dehydration of, with quicklime (Schlumberger), B., 361.

Sulphitopentamminecobaltic thiosulphate. See under Cobalt. 4-p-Sulphobenzeneazobenzyl-n-butylaniline (Rehly and Drumm), A., 760.

p-Sulphobenzeneazomethylstrychnine (Oxford, Perkin, and Robinson), A., 1209.

Sulphobenzoic acids, hydroxy-, mercury derivatives, solutions of (SAGI and CHEMOSAN A.-G.), (P.), B., 173*.

l-a-Sulpho-n-butyric acid, and its potassium salt (Levene, Mori, and Mikeska), A., 1171.

Sulphocinnamic acids, and their salts (Moore and Tucker), A., 242.

Sulpho-n-hexoic acid (NICOLET and BATE), A., 977.

l-a-Sulphohexoic acids, and their sodium salts (Levene, Mori, and Mikeska), A., 1171.

2-Sulphomethylanthraquinone-1-sulphonic acid, and its potassium salt (Locher and Fierz), A., 1191.

Sulphonal tablets, assay of (WARREN), B., 955.

Sulphonamides, substituted (Marvel and Gillespie), A., 66. Sulphonaminobenzoic acid, 4-chloro-, sodium derivative, calcium salts of (Esseff Chem. Ind. & Handels A.-G.), (P.), B., 59.

Sulphonaphthalene-1:8-dicarboxylic acids, nitro- (Dziewoński and Orzelski), A., 347.

4-Sulphonaphthastyril (I. G. FARBENIND.), (P.), B., 808.

3-Sulpho-1-naphthoic acid, 8-amino- (I. G. FARBENIND.), (P.), B., 808.

8-Sulpho-1-naphthoic acid, and 4-hydroxy-, and their derivatives (I. G. FARBENIND.), (P.), B., 808. 8-Sulpho-1-naphthoic anhydride (HERZ, SCHULTE, and GRASSELLI

DYESTUFF CORP.), (P.), B., 437. Sulphone-cyanine-5R, absorption ratio of, in potassium chloride

solutions (VLES), A., 1023. Sulphonephthaleins, synthesis and indicator properties of (COHEN),

A., 558.

Sulphonic acid, amino-. See Aminosulphonic acid. chloro. See Chlorosulphonic acid.

Sulphonic acids, arylamine salts of (Keyworth), A., 235.

aromatic, production of, by halogen substitution (Schöllkoff and RHEINISCHE KAMPFER-FABR.), (P.), B., 870*.

and their derivatives, water-soluble condensation products of alcohols and phenols with (I. G. FARBENIND, and FARBW. vorm. Meister, Lucius, & Brüning), (P.), B., 675.

alkylated, manufacture of (I. G. FARBENIND. and FARBW. VORM. MEISTER, LUCIUS, & BRÜNING), (P.), B., 618. substituted, manufacture of (I. G. FARBENIND.), (P.), B., 828.

esters, thermal decomposition of (Földi), A., 453. menthyl esters, decomposition products of (Patterson and

McAlpine), A., 364. Sulphonic acids, fluoro-, salts, comparison of, with perchlorates

(LANGE), A. 532. Sulphonium bases, double sulphates of the copper-magnesium group, and (P. C. and N. Rây), A., 740.

Sulphonyl fluorides, aromatic (Steinkoff), A., 963.

Sulphonylacetoxybenzoic acid, fluoro- (Steinkoff), A., 966.

Sulphonylbenzenediazonium chlorostannate, m-fluoro- (Steinкорг), А., 964.

Sulphonylbenzoic acids, fluoro-, and their salts and derivatives (STEINKOPF), A., 964

Sulphonyl-p-cresol-5-sulphonic acid, 3-fluoro-, and its ammonium salt (Steinkopf), A., 965.

Sulphonylphenol-2-sulphon-p-tolylamide, p-fluoro- (Steinkoff), A., 965.

Sulphonylphenyl iodide, m-fluoro-, dichloride (Steinkoff), A., Sulphonylsalicylic acid, 5-fluoro-, and its ammonium salt (Stein-

корг), А., 966. Sulphonyltoluene-o-azo- β -naphthol, p-fluoro- (Steinkoff), A.,

d-a-Sulphophenylacetic acid, and its sodium salts (Levene, Mori, and Mikeska), A., 1172.

Sulphophenyl-3:5-dimethyl-1:2:4-triazole, I-nitro- (Hernler and MATTHES), A., 469.

Sulpho-salts (Fernandes), A., 501; (Fernandes and Palazzo),

Sulphosuccinic acid, and its salts (BACKER and VAN DER ZANDEN), A., 856.

p-Sulphotoluene-o-diazonium sulphonic acid, sodium salt (Hall and Gibbs), A., 1181.

a-Sulpho-n-valeric acids, and their salts (BACKER and TOXOPEUS), A., 133.

d-a-Sulphovalerie acids, and their sodium salts (Levene, Mori, and Mikeska), A., 1171.

Sulphoxymolybdic acid, complex ammonium and guanidine salts of (Fernandes and Palazzo), A., 636. Sulphur, mining of (LUNDY, BURNS, and FREEPORT SULPHUR Co.),

B., (P.), 140. manufacture of ammonium sulphate and (HARNIST), (P.), B.,

522.production of, from alkaline-earth sulphates (Salzwerk Heil-BRONN A.-G., LICHTENBERGER, and FLOR), (P.), B., 75,

from metal sulphides (PRUDHOMME), (P.), B., 188.

treatment of (Schwab and Texas Gulf Sulphur Co.), (P.), B., 907.

purification of (WILKINSON and UNION SULPHUR Co.), (P.), В., 188; (Goldschmidt), (Р.), В., 218.

from coal gas (GLUUD, SCHÖNFELDER, and RIESE), B., 521. recovery of (JANNEK and I. G. FARBENIND.), (P.), B., 11.

from charcoal (I G. FARBENIND.), (P.), B., 365. from minerals (Veillet), (P.), B., 482.

absorption, fluorescence, and resonance spectra of (Rosen), A.,

arc spectrum of (McLennan, McLay, and McLeod), A., 999. fluorescence spectrum of (McLennan, Walerstein, and Grayson-Smith), A., 291.

Röntgen-ray absorption spectrum of (AOYAMA, KIMURA, and NISHIMA), A., 999.

spark spectrum of (L. and E. Bloch), A., 1117.

molecules, electric moment of (TAYLOR and RIDEAL), A., 925. latent heat of evaporation of (AWBERY), A., 1018.

electrical endosmosis with (GERASIMOV), A., 110. polymorphism of (Kohlschütter), A., 815.

atoms, influence of, on optical rotatory power (Shukla), A.,

on reactivity of adjacent atoms or groups (Bennett and Hock), A., 355; (Bennett and Berry), A., 871.

pseudo-ternary systems containing (HAMMICK and HOLT), A.,

dispersion in suspensions of (Pokrowski), A., 108.

fine dispersion of (GLAZE and MAAS CHEMICAL Co.), (P.), B., 629. ignition point of (White), A., 524.

burning of (Cornog, DARGAN, and BENDER), A., 32.

burners for (MERRIAM and GEN. CHEMICAL CO.; RAFFINERIES INTERNAT. DE SOUFRE), (P.), B., 482.

reaction regions of mixtures of iron and aluminium with (Joris-SEN and GROENEVELD), A., 314.

reaction regions of, with aluminium, iron, and magnesium (Jorissen and Ongkiehong), A., 112.

reaction of aluminium and magnesium with (DANNEEL and Fröhlich), A., 843.

behaviour of, with carbon at high temperatures (WIBAUT), B.,

action of, on organic compounds (Szperl), A., 241.

reaction between silver and, in powdered mixtures (Fischbeck and Jellinghaus), A., 943.

bivalent, nitrosyl derivatives of (Lecher and Siefken), A., 39; LECHER and GRAF), A., 46.

colloidal, coagulation of (Rossi), A., 935.

and monoclinic, preparation and properties of (GARARD and Colt), A., 410.

moulded, manufacture of (RHENANIA VEREIN CHEM. FABR.), (P.), B., 409.

rhombic, from volcanoes (RANFALDI), A., 1013.

solubilisation of, in nitrogenous soils (Guittonneau and Keilling), B., 587. metabolism of. See under Metabolism.

Sulphur compounds, biochemistry of (EAGLES and JOHNSON), A.,

effect of heat and hydrogen-ion concentration on biological transport of (Nond), A., 791.

Sulphur monochloride, preparation of (TERLINCK), (P.), B., 330. action of, with unsaturated compounds (LORAND), B., 514. chlorides, freezing points of (Lowry, McHatton, and Jones),

A., 505. Thionyl chloride, action of, on polyhydric alcohols (Majima and

Simanuki), A., 337. Sulphuryl chloride, preparation of (Danneel), A., 122.

action of, on substances containing reactivo methylene groups (NAIK and SHAII), A., 758. action of, on pyridine (BAUMGARTEN), A., 674.

Sulphides, change of volume in formation of (Del Fresno), A.

action of blood on (Denis and Reed), A., 476.

mineral, oxidation of (Carmichael), A., 336. mixed, precipitation of (Böttger and Druschke), A., 536. analysis of mixtures of sulphites, thiosulphates, and (Kurten-

ACKER and WOLLAK), A., 534. determination of, in glass (Heinrichs), B., 907.

Sulphur dioxide, preparation of, from gypsum (Neumann), B., 106.

concentrated, manufacture of (GES. FÜR LINDE'S EISMA-SCHINEN), (P.), B., 440.

purification and concentration of (Howard), (P.), B., 75.

liquid, separation of water from (Allgem. Ges. für Chem. Înd.), (P.), B., 365.

expulsion of, from mixtures with oil (ALLGEM. GES. FÜR CHEM. Înd.), (P.), B., 722.

molecular weight of, in various solvents and its compound with phosphorus oxychloride (ODDO and CASALINO), A., 312. critical constants and vapour pressure of (CARDOSO and FIORENTINO), A., 302.

densities of co-existing phases of (Cardoso and Sorrentino), A., 335.

absorption of, by organic liquids (Weissenberger and HADWIGER), B., 617.

as solvent for organic compounds (DE CARLI), A., 720.

velocity of reaction of hydrogen sulphide with (Taylor and WESLEY), A., 318. equilibrium of n-octano and (SEYER and GALLAUGHER), A.,

517. additive compounds of, with aromatic hydrocarbons (Dr

Carli), A., 234. platinum contact mass for use in oxidation of (v. ARTNER), (P.), B., 813.

as a preservative for fruit (BARKER and GROVE), B., 26.

commercial liquid, analysis of (ECKMAN), B., 876.

determination of, in dried fruit (MAY), B., 502, 973. determination of, in sugars (HURST), B., 729; (BAISSAC), B., 952.

determination of, in sugar-factory practice (OGILVIE), B., 312. determination of, in tannin extracts (Burron and Charlton), B., 20.

trioxide, molecular weight of, from vapour density (Oddo and Casalino), A., 300.

physical properties of aqueous mixtures of, in relation to concentration (TAMMANN), A., 508. liquid, fibrous, and colloidal (Oddo), A., 300.

absorption of, from gases (Shapleigh and Hercules Powder

Co.), (P.), B., 74. equilibrium of boron trioxide, water, and (Levi and Gilbert),

A., 1030. action of air and, on alkali chlorides (Zellstoff-Fabrik

WALDHOF and SCHMIDT), (P.), B., 11.

compound of, with nitric oxide (Manchot, König, and REIMLINGER), A., 32.

determination of, in presence of sulphur dioxide (ECKMAN), B., 876.

a- and β-trioxides, structure of (Oppo and Sconzo; Oppo), A., 432.

Sulphur acid, H2S4O5, from decomposition of thiosulphates (BASSETT and DURRANT), A., 843. Sulphur acids, relationships of (Basserr and Durrant), A.,

Sulphurous acid and its salts (Foensten and Centner), A., 32;

(FOERSTER and HAMPRECHT), A., 122. production of, for sulphite manufacture (AKT.-GES. FUR ZELL-STOFF & PAPIERFABR.), (P.), B., 777. and its salts, determination of (BICSKEI), A., 330.

Sulphites, production of (BRADLEY-McKEEFE CORP., BRADLEY,

and McKeefe), (P.), B., 777.

Sulphur :-

Sulphites, kinetics of reaction between iodates and (Skrabal and ZAHORKA), A., 319.

acid (bisulphites), manufacture of (BEVERIDGE), (P.), B., 218. analysis of mixtures of sulphides, thiosulphates, and (Kurten-ACKER and WOLLAK), A., 534.

detection of (EEGRIWE), A., 125; (ROSENTHALER), A., 330.

detection of, in foodstuffs (PARKES), B., 57.

Sulphuric acid, preparation of, from gypsum (Molitor), B.,

production of, in a reaction tube (Brandenburg), (P.), B.,

480.

and ferric sulphate, by oxidation (RALSTON), B., 906. manufacture of (Wolcott and Texas Co.), (P.), B., 74; (Lamoreaux), (P.), B., 217; (De Sotto), (P.), B., 298; (Skoglund), (P.), B., 331*; (Metallbank & Metall LURGISCHE GES. aud SCHMIEDEL), (P.), B., 480; (PETER-SEN), (P.), B., 521; (METALLBANK & METALLURGISCHE GES.; LARISON), (P.), B., 554; (FIELDING), (P.), B., 748; (LE MONIÈS DE SAGAZAN), (P.), B., 876.

pure (Krafft), (P.), B., 140, 522* by the contact process (Lewis and Ries), B., 700.

theory of lead chamber process for (Manchot, König, and Reimlinger), A., 32.

chambers for (PACKARDS & FISON and MAUDSLEY), (P.), B.,

repairing of chamber bottoms during (Kendrick and Souder), B., 747.

by the Tenteleff process (Budnikov), B., 363.

recovery of nitrogen oxides in (FAIRLIE), (P.), B., 778.

concentration of (STRZODA), B., 651.

influence of perchlorates on overvoltage in electrolysis of (MAZZUCCHELLI and ROMANI), A., 1145.

concentrated, electrical resistance of (FISCHER and HOOKER), A., 113.

specific resistivity of solutions of (Skowrowski and Reinoso), B., 368.

variation of cell constant with concentration and molal conductivity of (RANDALL and Scott), A., 421.

electrical conductivity of mixtures of phosphoric acid with (Kailan and Schroth), A., 23; (Meyer and Pawletta), A., 315.

activity coefficients of, in sodium sulphate solutions (RANDALL

and Langford), A., 729.

latent heat of vaporisation of (VREVSKI; VREVSKI and Nikolski), A., 733.

specific heats of systems of water, ferrous sulphate, and

(AGDE and HOLTMANN), A., 113. freezing point and activity coefficient of aqueous solutions

of (RANDALL and Scott), A., 419. absorption of water vapour by solutions of (GREENEWALT), B.,

equilibrium of copper sulphate, water, and (AGDE and BARKпост), В., 388.

equilibrium of sodium sulphate, water, and (FAUST and Esselmann), A., 22.

oxidation of charcoal with (Philippi, Seka, Sedlatschek, SCHMIDT, and SEKORA), A., 944.

action of fluorine on (FIGHTER and BLADERGROEN), A., 741. as a weed-killer (ASLANDER), B., 710.

concentrated, determination of water in (Somiya), B., 329. and fuming, analysis of, by titration (Somiya), B., 439.

fuming (oleum), manufacture of (Shapleigh and Hercules Powder Co.), (P.), B., 74

standards for, as reagent (RAKOVSKI), A., 534.

determination of, by precipitation with benzidine (HAASE), A., 638.

determination of, in drinking water (RASCHIG), B., 894.

Sulphuric acids (Oddo), A., 432.

Sulphates, polarisability and distance apart of ions in crystals of (ROLAN), A., 10.

adsorption of ions of, in colour lake formation (Weiser and PORTER), A., 1021.

determination of, as barium sulphate (Marjanović), A., 744. determination of, gasometrically (VAN SLYKE, HILLER, and

BERTHELSEN), A., 1228.
determination of, by the palmitate method (ZINK and HOLLANDT), A., 846.

determination of, volumetrically (Roth), A., 125; (Talenti), A., 330.

Sulphates, determination of, in presence of other sulphur compounds (Kurtenacker and Wollak), A., 638. determination of, in presence of tervalent chromium (PAYLOV),

A., 1160.

determination of, in water (Schock), B., 158. Hyposulphurous acid (hydrosulphurous acid) (Bazlen), A., 842. Hyposulphites (hydrosulphites), manufacture of (I. G. FARBEN-IND.), (P.), B., 482, 777.

anhydrous (Riggs and Squibb & Sons), (P.), B., 107. Persulphuric acid, and its salts, manufacture of (OESTERREICH-

ISCHE CHEM. WERKE), (P.), B., 440.

Persulphates, catalysis of the reaction between iodides and (v. Kiss and v. Zombory), A., 632. fogging action of, in photography (Clark), (P.), B., 269.

Pyrosulphites, effect of heat on (FOERSTER and HAMPRECHT), A.,

Thiosulphuric acid, decomposition of (Bassett and Durrant),

Thiosulphates, decomposition of solutions of (HAHN), A., 125. analysis of mixtures of sulphides, sulphites, and (Kurten-ACKER and WOLLAK), A., 534.

determination of, with potassium dichromate (Bruhns; Böttger), A., 330.

Dithionic acid, decomposition and oxidation of (Yost and Pomeroy), A., 425.

Tetrathionates, reaction between cyanides and (ISHIKAWA), A., 1147.

Polythionates, formation of (Josephy and Riesenfeld), A., 220.

action of sulphites on (Foerster and Centner), A., 32. analysis of (Kurtenacker and Goldbach), A., 1045.

Sulphur organic compounds (Schönberg; Schönberg and Schütz), А., 667.

infra-red absorption spectra of (Bell), A., 1052.

action of gaseous hydrogen iodide with (Nellensteyn), B.,

long-chain (RAY), A., 228.

Sulphides, halogenated, decomposition of (Bell, Bennett, and Носк), А., 958.

β- and γ-chloro-, comparative reactivities of (Bennett and BERRY), A., 871.

Polysulphides, aliphatic (Twiss), A., 337.

Sulphur determination :-

determination of, in coal (Kohout), B., 802. determination of, in solid fuels (Schön and Vykypiël), B., 3.

determination of, in iron ores (HAWES), B., 939.

determination of, in iron and steel (Ciochina), B., 335; (Marqueyrol and Toquet), B., 751.

determination of, in lead (EVANS), B., 911.

determination of, in ores (JÄRVINEN), B., 910.

determination of, in organic compounds (RECSEI), A., 33, 368. determination of, in organs and urine (PINCUSSEN and Konarsky), A., 1116.

determination of, micro-volumetrically, in physiological fluids (Pohorecka-Lelesz), A., 478.

determination of, in pyrites (KASTNER), B., 480. determination of, in rubber (KAHANE), B., 532, 823.

Sulphur-black (PALEY), (P.), B., 8.

Sulphur castings, coloured, production of (Scholz), (P.), B., 482. Sulphur dyes, manufacture of (I. G. FARBENIND., WUKTE, and HAGGE), (P.), B., 136.

Sulphuryl chloride. See under Sulphur.

Sulphurylazide, action of, on p-cymene (Bertho, Curtius, and SCHMIDT), A., 1085.

Sun, chemical composition of the atmosphere of the (Washing-TON), A., 1050.

absorption spectrum of (v. Klüber), A., 909.

See also Solar spectrum.

Sunlight, radioactivity of matter exposed to (MARACINEANU), A.,

Supa oil (Henderson, McNab, and Robertson), B., 172. Superconductivity, disturbance of, by magnetic fields (Tuyn and Onnes), A., 716.

and allotropy (Keeson and Onnes), A., 716.

Superheater, laboratory steam (Kattwinkel), A., 642. Superphosphates, manufacture of (Bodrero), (P.), B., 151.

treatment of (GAILLARD), (P.), B., 748. Supersaturation, formation of nuclci in (FARKAS), A., 524.

Suprarenal glands, inorganic constituents of (Marx), A., 371.

Suprarenal glands, adrenaline in (MOURIQUAND and LEULIER), A., 168.

function of cortex of (Swingle and Eisenman), A., 381. substance from cortox of (v. Szent-Györgyi), A., 381.

oxidative power of tissues after extirpation of (Estrada and Neuschlosz), A., 381.

effect of extirpation of, on blood-sugar and glycogen (ESTRADA), A., 381.

of normal and scorbutic guinea-pigs, constituents of (RANDOIN and MICHAUX), A., 283. Surfaces, polishing of (Adam), A., 192, 299; (Muir), A., 299;

(French), A., 510. friction (Brit. Dyestuffs Corp., Cronshaw, Baddiley, and

Силрман), (Р.), В., 898. sliding, seizure with (MACAULAY), A., 299.

Surface activity, boundary, and dielectric constants (REHBINDER), A., 1136.

Surface energy, effect of temperature on (Rehbinder), A., 930. and adsorption at boundary surfaces (Rehbinder), A., 930. Surface tension, measurement of (HARKINS, YOUNG, and CHENG),

A., 108; (Dorsey), A., 404. by capillary rise (MILLS and Robinson), A., 927.

by the Eötvös method (Moser), A., 507. by the ring method (Johlin), A., 1136.

dependence of, on electric charge (RUFF, NIESE, and THOMAS), A., 402; (Bogoslovski), A., 1132.

relation between temperature and (Verschaffelt), A., 195. and heat of vaporisation (Verschaffelt and De Block), A., 108; (Herz), A., 506.

in relation to solubility (TRAUBE, SCHÖNING, and WEBER), A., 1022.

in relation to wetting power (Nellensteyn), B., 132.

lowering of, at interface between water and fatty acids (Dubrisay), A., 618.

of colloidal solutions (HARKINS), A., 17.

of insulating liquids in an electric field (BRUHAT and PAUTHENIER), A., 104.

of mixed liquids near the critical point (Brun), A., 508.

of viscous liquids in relation to temperature (TAMMANN and RABE), A., 618.

of liquid metals (Bircumshaw), A., 719.

of molten metals (LIBMAN), A., 929.

of molten metals and alloys (MATUYAMA), A., 1019.

of solids (ADAM), A., 404.

dynamic, theory of (RICE), A., 306.

Sweat, constituents of (Talbert and Haugen; Talbert, Silvers, and Johnson), A., 788; (Talbert, Finkle, and Katsuki), A., 1105; (Talbert, Harris, Finkle, and Silvers), A., 1216. Sylvine, symmetry of (HERZFELD and HETTICH), A., 97

Sylvinite, dissolution and displacement of sylvine from (Keitel),

Sympathol (Lasch), A., 900.

Sympectothion (HUNTER and EAGLES), A., 477.

from blood, identity of ergothioneine with (Eagles and Johnson), A., 369.

Syncholia (IBUBI), A., 990. Syncholics (IBUBI), A., 990.

Synovial fluid, distribution of chlorides and proteins between blood plasma and (FREMONT-SMITH and DAILEY), A., 69.

Synthalin, action of, in the animal organism (SIMOLA), A., 900. Syphilis, action of tellurium compounds in (Levaditi, Nicolau, and Manin; Fournier, Levaditi, and Guénot), A., 587.

Syringidin (KARRER, WIDMER, HÜRLIMANN, and NIEVERGELT), A., 252.

Syrups, manufacture of (Cole), (P.), B., 921.

concentration and evaporation of (BAKER PERKINS, LTD., BAKER, PRESCOTT, and Soc. Anon. Anc. Etabl. Savy JEANJEON & CIE.), (P.), B., 538.

removal of fine grain contained in (RAFFINERIE TIRLEMONTOISE Soc. Anon.), (P.), B., 921.

de-liming of (VAN DER JAGT), B., 56.

after-product, determination of dry substance in (Mikolášek),

beet, influence of hyposulphites on (Zamaron), B., 887. determination of carbonate in (MINTZ and ZILBERMAN), B., 952. Systems containing similar particles, quantum dynamics of

(Hund), A., 801. disperse, interfacial forces in (DE WAELE), A., 16. extended conjugated, feeble activation of (Robinson and Zaki), A., 1184.

Systems, heterogeneous, including electrolytes, equilibrium in (Butler), A., 112. univariant, and independent components (Wegscherder), A.,

Tayetes glandulifera, olefinic terpene ketones from oil of (Jones), A., 43

Tagetol (Jones), A., 43.

Tagetone (Jones), A., 43.

Taka-diastase (Nisiiikawa), A., 1111.

Tall oil, resinous substances and oleaginous fatty acids from (CHEM. FABR. NOERDLINGER), (P.), B., 258. Tallow, detection of hardened fat in (GERRITZEN and KAUFFMAN),

B., 944.

d-Talonic acid (Hedenburg and Cretcher), A., 340. Tanks, settling (HUNTER), (P.), B., 1; (KROPP), (P.), B., 510.

Tannase (FREUDENBERG, BLÜMMEL, and FRANK), A., 699. Tanneries, disposal of waste from (HOWALT and CAVETT), B., 791. Tannins (FREUDENBERG and KAMMÜLLER; FREUDENBERG and

HARDER), A., 251; (FREUDENBERG and FRANK), A., 464. occurrence of, in plants (LUFT), A., 388

formation of, in fruits (BOTTINI), A., 1226. manufacture of (Chemnitius), B., 825.

reaction of carbohydrates with (STOCKS and GREENWOOD), B., 231.

reaction of casein with (STOCKS), B., 231.

preparation of alcohol-soluble, bromine-containing condensation products of (JÜDEFEIND), (P.), B., 684.

antioxygenic action of, on Hymenomycetes (Lutz), A., 906.

gelatin precipitation test for (Jones), B., 497. chesnut and oak (KURMEIER), B., 610.

natural and synthetic, fluorescence test for (Gerngross and SANDOR), B., 372.

pyrocatechol and pyrogallol, separation of (Амек. Leather Снем. Assoc.), В., 791.

quebracho, detection of (Pollak and Springer), B., 373.

synthetic, analysis of (Escourrou), B., 20.

urunday, and their extracts (Vogel), B., 283. vegetable, effect of "Gerbstoff F" on properties of (Stiasny

and ORTH), B., 497.

determination of, in tanning extracts (Sadikov), B., 394. determination of insoluble matter in solutions of (PARKER and

Terrell), B., 709. Tannin extracts, preparation of, from red gum or marri kino

(Austral. Council for Sci. & Ind. Res.), B., 853. bleaching, determination of sulphur dioxide in (Burron and

Снаватом), В., 20. Tannin-gelatin reaction (BAUGHMAN), B., 306.

Tanning (Tullis), (P.), B., 373; (Mathieson Alkalı Works and Low), (P.), B., 497; (Plausons Forschungsinst.), (P.), B., 854.

theory of (L1), B., 853.

mechanism of (Gustavson), B., 341, 534.

control of, with the polarisation microscope (Jouanovits), B., 636.

accelerator for (Liesegang), B., 284.

bactericidal action of chromium salts in (HILPERT, PANETH, and SCHLUMBERGER), B., 917.

with metallic salts and silicates (Röhm and Haas), (P.), B., 854. manufacture of soluble condensation products for (Kämpf), (P.), B., 421.

chromium-magnesium preparations for (I. G. FARBENIND. aud Farbw. vorm. Meister, Lucius, & Brüning), (P.), B., 497.

use of sulphite-cellulose in (Wallace and Bowker), B., 534. of hides (Chem. Werke "Herkules"; Schapringer), (P.), B., 854.

of membranes and tendons, X-ray study of (Herzog), B., 343. aldehyde, influence of hydrogen-ion concentration and of neutral salts on (Gerngross and Gorges), B., 86.

chrome (STIASNY and BALANYI), B., 393; (SAUTOT), (P.), B., 758.

mechanism of (Hudson), B., 708. neutral salt effect in (Gustavson), B., 824.

one-bath (Gustavson), B., 284. oil, theory of (MATHUR), B., 284.

Tanning agents (I. G. FARBENIND.), (P.), B., 261, 262, 758, 924; (WEBER and MAYWOOD CHEMICAL WORKS), (P.), B., 421.

Tanning agents, manufacture of (I. G. FARBENIND, and A.-G. FÜR ANTLIN-FABR.), (P.), B., 373; (I. G. FARBENIND. and FARBW. VORM. MEISTER, LUCIUS, & BRÜNING), (P.), B., manufacturo of sulphurised derivatives of naphthalene as

(FABR. VAN CHEM. PRODUCTEN and KRAUS), (P.), B., 497. action of, on collagen treated with neutral salts (GUSTAVSON),

B., 452.

Tanning extracts and crude tanning materials, comparison of tanning action of (PAVLOVITSCH), B., 53.

vegetable, fluorescence of (GERNGROSS, BAN, SANDOR, and Tsou), B., 137.

determination of quebracho extract in (Gerngross and HÜBNER), B., 854.

Tanning liquors, influence of hydrogen ions and valency of added anion on plumping in (Page and Gilman), B., 285. determination of acid in (STEVEN and ANACKER), B., 611.

Tanning materials (Tullis), (P.), B., 21. extraction of (Williams), B., 260.

manufacture of, from sulphite liquors (Drewsen and West Virginia Pulp & Paper Co.), (P.), B., 535. sampling of (AMER. LEATHER CHEM. ASSOC.), B., 791.

Tantalite, decomposition of (HAHN and FIRMA FRANKE), (P.), B. 491.

Tantalum (Schoeller and Jahn), A., 32.

L-series spectrum of (WENNERLÖF), A., 286.

under-water spark spectrum of (Allin and Ireton), A., Sol. emission of light by (WORTHING), A., 100.

Tantalum chlorides (LINDNER), A., 327. halides, space configuration of (LINDNER), A., 611.

Tantalum determination and separation:-

analysis of (Schoeller and Jahn), A., 1047; (Schoeller and DEERING), B., 940.

determination of, by X-ray spectroscopy (v. Hevesy and Вонм), А., 849.

separation of, from titanium and niobium (Schoeller and DEERING), B., 940.

Tantalum anodes. See under Anodes.

Tar, preparations of (PRODORITE S.A.), (P.), B., 518.

new type of (Church), B., 182. apparatus for heat treatment of (Duckham and Thermal

Industrial & Chemical Research Co.), (P.), B., 160*. influence of carbonising conditions on free carbon content of (Hollings), B., 38.

furnace for heating (MACINTOSH), (P.), B., 646.

distillation of (Riehm), B., 100; (Neumann and Steinschneider), (P.), B., 291; (Morgan and Thermal Industrial & CHEMICAL (T. I. C.) RESEARCH Co.), (P.), B., 321*; (DAVID-SON, MICHIE, and MUDDIMAN), (P.), B., 404; (MORGAN, RIDER, and THERMAL INDUSTRIAL & CHEMICAL RESEARCH Co.), (P.), B., 597*.

Tar, and tar oils, continuous distillation of (BLUMNER), (P.),

continuous distillation plant for (FUKUNAGA), B., 807. balance of nitrogen in distillation of (TER MEULEN), B., 469. and tar oils, fractionation of (Duijts), (P.), B., 597.

refining of (Siemens & Halske and Harries), (P.), B., 596. and tar oils, decomposition of, into pitch without distillation (WABEL), (P.), B., 696.

cracking of (COMP. MIN. VICOIGNE, NOEUX & DROCOURT), (P.), B., 211; (BOWIE), B., 517.

destructive hydrogenation of (I. G. FARBENIND.), (P.), B., 644. extraction of neutral oils from (WITTEK), (P.), B., 901. and its compositions, application of, for roads (CHILD), (P.), B., 724.

vulcanisation of, for road-making (MITTELDEUTSCHE HART-

STEIN-IND.), (P.), B., 808. variation of Hutchinson consistency of, with temperature (Spiers), B., 38, 645.

distillates, determination of hexahydrohydrocarbons in, volumetrically (Danaila and Stoenescu), B., 98.

Tar, acid, from purification of oils, utilisation of (Schmitz), B., 384, 385; (Hugel), B., 385.

beechwood, constitution of (Fromm), A., 968. coal (SINNATT, KING, and LINNELL), B., 37.

from steamed vertical retorts (PARKER), B., 36.

distillation of (HAZELDON), (P.), B., 469; (MEIRO), (P.), B.,

separation of anthracene and naphthalene from distillates of (Meiro), (P.), B., 646.

Tar, coal, surface tension and wetting power of (Nellensteyn), B., 132.

viscosity of (Mallison and Soltau), B., 517. asphalt-like substances in (Sebor), B., 645.

preservative properties of chlorinated derivatives of (Curtin and Bogert), B., 938.

fission of heterocyclic compounds of (Weissgerber and SEIDLER), A., 1198.

manufacture of liquid hydrocarbons from (I. G. FARBENIND.), (P.), B., 805.

methylindoles in (KRUBER), A., 157.

formation of naphthalene in (Kosaka and Osilima), B., 741. production of mixed phenols from (CROSS), (P.), B., 807.

analysis of products of (ADAM), B., 39. detection of, and its distillates in petroleum asphalt and natural asphalt (Sauerbier), B., 642. lignite, aromatic and hydroaromatic compounds of (Herzen-

BERG, RUHEMANN, and WICHTERICH), A., 551. low-temperature and producer, heating of, under pressure

(ERDÉLY), (P.), B., 68.

low-temperature, production of, from bituminous shale (FABIAN), (P.), B., 211; (PFAFF), (P.), B., 291. plant and generator for production of (ERHARD), (P.),

B., 549. separation of constituents of (Zeche M. Stinnes and

WEINDEL), (P.), B., 404. red colour of extracts and emulsions of (Burke and Caplan),

B., 246. value of, as carburetting oil for water-gas (Shimomura),

B., 641. production of low-boiling oils from (Comp. Min. Vicoigne,

NOEUX & DROCOURT), (P.), B., 597. aromatic hydrocarbons in (Morgan and Pratt), B., 7.

calcium phenoxides from (GREENBAUM), B., 211. commercial (Curtis and Beekhuis), (P.), B., 68.

primary (WARD), B., 135.

shale. See Shale tar.

vertical-retort (Macleod, Chapman, and Wilson), B., 37.

for road purposes (BARASH), B., 36. Tar distillate washes, action of, on pests (GOODWIN, MASSEE, and

LE PELLEY), B., 23. Tar macadam, mixing machine for (BLAKE), (P.), B., 254.

Tar oils, distillation of (Meiro), (P.), B., 646. extraction of neutral oils from (Witter), (P.), B., 901.

acid-bearing, purification of (COMBUSTION UTILITIES CORP. and CAPLAN), (P.), B., 807.

beechwood, purification of (SUIDA and WACEK), (P.), B., 183. light, treatment of (COMP. MIN. VICOIONE, NOEUX & DROGOURT), (P.), B., 211.

lignite, deodorisation and decoloration of phenols in (Mailie), B., 807.

producer, cracking of (VARGA and ERDÉLY), B., 435. determination of phenol and pyridine in (KATTWINKEL), B., 292.

Tar products, improvement of (SIEMENS & HALSKE), (P.), B.,

dehydrogenation of, with sulphur (FRIEDMANN), B., 807. Taraxacum officinale, constituents of latex of (Zellner), A., 597. Tartar emetic. See Tartaric acid, potassium antimonyl salt.

Tartaric acid, manufacture of ZEMPLÉN and CHEM. FABR. STOLTZENBERG), (P.), B., 173*.

rotation of (Longchambon), A., 17; (Vellinger), A., 500. rotation dispersion of solutions of, containing boric acid (Descamps), A., 307.

ultra-violet rotatory dispersion of aqueous solutions of (Descamps), A., 723.

ultra-violet rotatory dispersion of mixtures of boric acid and

(Descamps), A., 409. rotatory power of, in calcium chloride solution (DARMOIS),

A., 723. second dissociation constant of (Duboux and Frommelt), A., 515.

titration acidity of, after drying (Engler), B., 315.

pyrogenic reactions for (Sanchez), A., 543.

and its disodium salt and esters, bismuthyl compounds of (Browning, Cohen, Gulbransen, Phillis, and Snodgrass), A., 855.

salts, extraction of, from wine-lees (Keaverstein), (P.), B.,

rotation of ions of (DARMOIS), A., 610.

Tartaric acid, alkali salts, ultra-violet dispersion of aqueous solutions of (DESCAMPS), A., 823.

europium salts (Sarkar), A., 325.

N-methylhydroxylamine salt (LINDEMANN and TSCHANG), A., 1074.

molybdenyl salt (WARDLAW and WORMELL), A., 636.

potassium salt, production of, from grape residues (Spedicato), (P.), B., 538.

potassium antimonyl salt (tartar emetic), compounds of the type of (DARMOIS), A., 448.

potassium hydrogen salt (cream of tartar), extraction of (Porov),

(P.), B., 459.

as standard for acids and alkalis (FAVREL), A., 743.

potassium sodium salt, temperature variation of elasticity of (DAVIES), A., 925. protective action of, on cupric oxide sols (Basu and Laksh-

MANAN), A., 725.

detection of, micrographically (François and Lormand), B., 155.

determination of, in beverages (BERG and MÜLLER; FONZES-

DIACON), B., 24.

Tartaric acid, dihydroxy-, action of halogen-substituted phenylhydrazines on, and its derivatives (CHATTAWAY and HUM-PHREY), A., 776.

d-Tartaric acid, chloralides of (Yorston), A., 1171.

Tartaric acids, dichlorides of (BÖESEKEN and BLOK), A., 646. Tartronie acid, bismuthyl compound of (Browning, Cohen, GULBRANSEN, PHILLIS, and SNODGRASS), A., 855.

Taste, acid, in relation to hydrogen-ion concentration (DIETZEL), A., 20.

Taurine, synthesis of (MARVEL, BAILLY, and SPARBERG), A., 863. titration curves for (Andrews and Schmidt), A., 827.

Tautomerism, ionic theory of (Prévost); A., 851. effect of bridged and unsaturated rings on (Hugh and Kon), A., 1195.

in phthalonic and phthalidecarboxylic acid series (CORNILLOT), A., 1069.

ring-chain (ROTHSTEIN and SHOPPEE), A., 447; (VOGEL), A., 449; (MEERWEIN, BRÄKE, KOMANT, and MORSCHEL), A., 875.

three-carbon (Kon and Nutland), A., 153; (Linstead), A., 356, 1167; (Kon and May), A., 853; (Kon and Narayanan), A., 873; (HUGH, KON, and LINSTEAD; HUGH and KON), A., 1195.

transannular (Barnett, Cook, and Matthews), A., 140.

Taxorhodin (Kylin), A., 669.

Taxus baccata, colouring matter from (KYLIN), A., 669. Tea, black, determination of caffeine in (STÜBER), B., 153.

Tea leaves, chemistry of (Calvery), A., 597.
Tea-seed oil as adulterant of olive oil (Caulkin), B., 608. Teeth, biochemistry of growth of (MATSUDA), A., 272.

human, lithium and strontium in (Descrez and Meunier), A., 894.

Telegraph cables, alloys for (SMITH and GARNETT), (P.), B., 303. Telegraph conductors, alloys for (SMITH and GARNETT), (P.), B., 80.

Telegraph poles, preservation of (HIMMELSBACH), (P.), B., 525. Telephones, manufacture of carbon granules for transmitters of (BARRALET), (P.), B., 866.

Telephone apparatus, electric annealing of materials for (TIMM), B., 79.

Telephone cables, alloys for (SMITH and GARNETT), (P.), B., 303. Telephone conductors, alloys for (SMITH and GARNETT), (P.), B., 80.

Tellurium, absorption, fluorescence and resonance spectra of (Rosen), A., 608.

line absorption spectrum of (KIMURA), A., 601.

Röntgen-ray absorption spectrum of (Chamberlain and LINDSAY), A., 1118.

ultra-violet absorption spectrum of (McLennan and Cooley), A., 395.

arc spectrum of (McLennan, McLay, and McLeod), A., 999. fluorescenco spectrum of (McLennan, Walerstein, and GRAYSON-SMITH), A., 292.

ionised, series spectrum of (LANG), A., 911.

vapour, line fluorescence of (RAKOWICZ-POGORZELSKA), A., 292. compressibility of (Mein and Mair), A., 927.

Tellurium alloys with antimony, equilibria of (Endo), A., 720. Tellurium compounds, bactericidal and fungicidal action of (STOVER and HOPKINS), B., 374.

Tellurium compounds, action of, in syphilis (LEVADITI, NICOLAU, and Manin; Fournier, Levaditi, and Guénot), A., 587.

Tellurium organic compounds, cyclic (DREW), A., 164.

Tellurium detection and determination :-

detection of, with thiocarbamide (FALCIOLA), A., 951. determination of, volumetrically, and selenium (LITTMAN),

Temperature, relation of density to (Herz), A., 927. relation between energy and, of gases (Wertheimer), A., 1132.

of equal internal pressure of liquids (Henz), A., 102. method of raising, of liquids (HAMMOND and SHACKLETON), (P.), B., 240.

absolute zero, properties of substances and mixtures at (Kleeman), A., 520, 936, 1142.

high, measurement of (Yamaguchi), A., 100.

investigation at (RUFF and KONSCHAK), A., 102. properties of materials at (TAPSELL and CLENSHAW), B., 526.

low, method of obtaining (SIMON), A., 100; (GIAUQUE), A.,

Tendons, compounds extracted from (Gulevitscii), A., 788. Tennis courts, hard, coloured material for manufacture of (IDRIS).

(P.), B., 604.

Tephrosia Vogelii, toxicity of (TATTERSFIELD, GIMINGHAM, and Morris), B., 86.

Terbium, ionisation potential of (ROLLA and PICCARDI), A., 1001. Teredo, protection of piling against (RAMAGE and BURD), B.,

Terephthaldialdoxime, ωω'-dichloro- (RHEINBOLDT, DEWALD, JANSEN, and SCHMITZ-DUMONT), A., 245.

Terephthalic acid, p-diamino-, and its diethyl ester (Schroeter), (P.), B., 212.

Ternary systems (HILL and MILLER), A., 418; (A. E. and D. G. HILL), A., 518; (HILL and BACON), A., 1142. Terpenes (HIRAO), A., 57, 353; (HOUBEN and PEANKUCH),

Terpene alcohols, nitrogenous derivatives of (Wolffenstein), (P.), B., 28, 173*. cyclic, dehydration of, by Japanese acid earths (Ono), A., 156.

Terpene compounds, higher (RUZICKA, STEIGER, and SCHINZ), A., 60; (Ruzicka and Capato), A., 569.

Terpin hydrate, determination of, in terpin hydrate elixir (MURRAY), B., 540.

y-Terpinene (RICHTER and WOLFF), A., 364.

Terpineol, formation of, from a-pinene (Germuth), A., 883.

Terra cotta (Spurrier), B., 332, 629.

Tests, chemical, apparatus for effecting (HATFIELD), (P.), B., 832*.

Testicles, influence of bile acids on proteolysis in (Karasawa), A., 171.

calves, asparaginase in (Mario), A., 168.

Tetany, prevention of, by means of ammonium chloride (WEN-NER), A., 1107.

prevention of, by magnesium lactate (Wenner), A., 988. eryptotoxin of (VINCENT), A., 175.

guanidine in urine during (KUEN), A., 988.

experimental, mineral metabolism in (KRINIZRI), A., 587. 3:4:3':4'-Tetra-acetoxy-1:1'-dianthracene (ECKERT and HAMPEL), A., 882.

3:4:3':4'-Tetra-acetoxy-1:1'-dianthraquinonyl (ECKERT and HAM-PEL), A., 882.

Tetra-acetylcarminic acid (MIYAGAWA), A., 134.

Tetra-acetyldextrose 6-chlorohydrins (HELFERICH and BREDE-RECK), A., 1056.

Tetra-acetylglucoconiferyl alcohol (PAULY and FEUERSTEIN), A., 650.

Tetra-acetylglucoconiferyl aldehyde (PAULY and FEUERSTEIN), A., 649.

Tetra-acetylglucosidodiisopropylidene galactose (Freudenberg, Noë, and Knopf), A., 230.

Tetra-acetylglucosidosaccharin (Josephson), A., 1057.

ω-*O*-Tetra-acetylglucosidoxyacetophenone (Robertson and, Robinson), A., 252.

4-9-Tetra-acetylglucosidoxy-2-hydroxybenzaldehyde (Robertson and Robinson), A., 252. 3-Tetra-acetyl- β -glucosidoxyindole-2-carboxylie acid, methyl ester

(ROBERTSON), A., 960. Tetra-arylhydrazines, ammonium character of (Weitz and

SCHWECHTEN), A., 658. Tetra-arylsuccinodilactones (Löwenbein and Schmidt), A., 1072

Tetracarbethoxycystines (Gortner and Hoffman), A., 581.

Tetracarbethoxy-y-ethylfructoside (Allpress, Haworth, and Inkster), A., 752.

Tetracarbethoxymethylfructosides (Allpress, Haworth, and INKSTER), A., 752.

Tetracarbomethoxymethylfructosides (Allpress, Haworth, and INKSTER), A., 752.

Tetradecan-o-ol, a-bromo- (CHUIT, BOELSING, and MALET), A., 447.

5-Tetradecyl-\(\psi\)-thiohydantoin (NICOLET and BATE), A., 977. Tetradiphenylylbenzidine, and its derivatives (Piccard), A., 50.

Tetra-6-ethoxy-m-tolylethylene sulphide (Schönberg), A., 667. $\alpha\alpha$ -4:4'-Tetraethyldiaminodiphenyl - $\beta\beta$ - 4:4' - tetramethyldiamino-

diphenylethan-a-ol (Rodd and Linch), A., 1067. pp'-Tetraethyldiamino-β-naphthylcarbinol (Rodd and Linch), A., 1067.

Tetraethylammonium fluoborate (WILKE-DÖRFURT and BALZ), A., 238.

oxides (Traube, Burmeister, and Blaser), A., 342.

3:3:6:6-Tetraethyl-2:5-di-n-propylpiperazine, and its dihydrochloride (Theunis), A., 653.

s-Tetraethylguanidine, and its salts (Lecher and Demmler), A., 756.

N-Tetraethylphthalamides (MAXIM), A., 458.

N-Tetraethylterephthalamide (MAXIM), A., 458.

Tetrafluorenylhydrazine (Goldschmidt and Reichel), A., 963.

Tetraformatostannic acid, salts of (ELÖD and KOLBACH), A., 958. Tetrahedrite, crystal structure of (PALACIOS), A., 1015.

οf 1:2:3:4 - Tetrahydroanthracene - 9 - sulphonic (Schroeter and Götzky), A., 1178.

△⁴-Tetrahydroanthranilic acid, and its copper salt and derivatives

(MAZZA and CRAPETTA), A., 662.

Tetrahydroanthranol, and its derivatives (I. G. FARBENIND. and RIEDEL. A.-G.), (P.), B., 597.

4:5:6:7-Tetrahydrobenz-4':5'-isothiazole, 4:4:6:6:7-pentachloro-5hydroxy- (Fries, Eishold, and Vahlberg), A., 782.

Tetrahydro-\(\psi\)-berberrubine, synthesis of, and its ethyl ether (KITASATO), A., 1095.

Tetrahydrobrucine, and its salts and derivatives (Gulland, Perkin, and Robinson), A., 889.

Tetrahydrocodeone, hydroxy- (Schöpf and Borkowsky), A., 473. Tetrahydrocolumbamine (Spätii and Mosettic), A., 368.

Tetrahydrode-N-dimethylcorydaline (v. Bruchhausen and Stipp-LER), A., 683.

Tetrahydrofurylallyl alcohol, and its acctate (BRAY and ADAMS), A., 973.

Tetrahydrofurylpropyl alcohol, and its salts (BRAY and ADAMS),

ar-Tetrahydro-3-cyclohexyl-β-naphthol (Alberti), A., 145. Tetrahydroindazole, derivatives of (v. Auwers), A., 577.

Tetrahydroindazolecarboxylic acids and their derivatives (v. Auwers), A., 576.

Tetrahydrojatrorrhizine, synthesis of (Späth and Mosettic), A., 368.

Tetrahydroisomethysticin (Borsche, Meyer, and Peitzsch), A., 1192.

Tetrahydroallomethysticin, and its copper derivative (Borsche, MEYER, and PEITZSCH), A., 1192.

Tetrahydromethysticole semicarbazone (Borsche), A., 563.

Tetrahydronaphthaldehyde, 2-hydroxy-, and its derivatives (Thoms and Kross), A., 659.

Tetrahydronaphthalene, van der Waals' constants for (Weissen-BERGER and HENKE), A., 111.

Tetrahydronaphthalene (tetralin), 5:8-dinitro- (Chudozilov), A., 49.

3-nitro-2-hydroxy- (Thoms and Kross), A., 659.

6-nitro-7-hydroxy-, and 6:7-dinitro- (Chudozhov), A., 49.

5:6:7:8-Tetrahydronaphthalene-3-carboxylic acid, 2-amino-Braun and Zobel), A., 258.

Tetrahydronaphthalene-α-sulphonmethylamide, nitro- (Stein-KOPF), A., 965.

Tetrahydronaphthalene-a-sulphonyl fluoride, and nitro-, and its derivatives (STEINKOPF), A., 965.

Tetrahydronaphthisatins, and their derivatives (v. Braun and ZOBEL), A., 258.

5:6:7:8-Tetrahydro-β-naphthoic acid (v. Braun and Zobel),

ar-Tetrahydro-α-naphthol, action of nitrous acid on, and 4-nitro-(Rowe and Levin), A., 354.

ar-Tetrahydro-β-naphthol, salts and derivatives of (Thoms and Kross), A., 659.

6:7:8:9-Tetrahydro-a-naphthoxindole (v. BRAUN and ZOBEL),

Tetrahydro-β-naphthoxyacetone, and its derivatives (Thoms and Kross), A., 659.

γ-1-Tetrahydronaphthyl-n-butyric acid, and its chloride (v. Braun and RATH), A., 666.

Tetrahydronaphthyl-3-carbamide, 2-hydroxy- (Thoms and Kross), A., 659.

B-1-Tetrahydronaphthylethylmalonic acid ethyl ester (v. Braun and RATH), A., 666.

Tetrahydronaphthyl-3-thiocarbamide, 2-hydroxy- (Thoms and Kross), A., 659.

Tetrahydrongaiene dioxide (McDowall), A., 566.

Tetrahydrongaiol, and its acetate (McDowall), A., 566.

Tetrahydrongaione, and its derivatives (McDowall), A., 566. Tetrahydrongaiylamine, and its picrolonate (McDowall), A., 566.

Tetrahydronormethylmorphimethines, and cyano-, and acetyl derivatives (v. Braun and Cann), A., 266.

Tetrahydropalmatine α- and β-methiodides (HAWORTH, KOEPFLI, and Perkin), A., 1096.

Tetrahydroisophthalic acids, formation of, by reduction of isophthalic acid (FARMER and RICHARDSON), A., 244.

Tetrahydrophthalic anhydrides, reduction of (Mazza and DI Mase), A., 664; (Mazza and Cremona), A., 665.

Tetrahydrophthalides, and their derivatives (MAZZA and DI MASE), A., 664; (MAZZA and CREMONA), A., 665.

Δ²-Tetrahydrophthalimide (Mazza and Crapetta), A., 662.

Tetrahydrophthalimidines (MAZZA and DI MASE), A., 664; (MAZZA and CREMONA), A., 665.

Tetrahydroprotoberberine (KITASATO), A., 1095.

synthesis of, and its salts (CHAKRAVARTI, HAWORTH, and Perkin), A., 1096.

Tetrahydroprotopapaverine, and its sulphate (KITASATO), A., 1095.

Tetrahydropyrones, from condensation of cyclohexanones with benzaldehyde (Cornubert and Le Bihan), A., 1075.

Bz-Tetrahydroquinazolines, and 2-amino-4-hydroxy- (MITTER and Впаттаснакуа), А., 977.

Tetrahydroisoquinoline bases, synthesis of (v. Braun and Wirz), A., 254. Tetrahydrothiophen bromoplatinate (BENNETT and Hock),

A., 355.

Tetrahydrothiophen-δ-bromobutylsulphonium salts (Bennett and Носк), А., 355.

Tetrahydrothiophen-8-hydroxybutylsulphonium salts (Bennett and Hock), A., 355.

△2-Tetrahydro-o-toluic acid (MAZZA and DI MASE), A., 664. Δ2-Tetrahydrotoluoyl chloride, ω-chloro- (MAZZA and DI MASE), A., 664.

Tetrahydroworenine, and its N-methyl derivative and salts (Кітазато), А., 1095.

Tetraindene (BRUSON), A., 654.

αβγδ-Tetraketo-α-phenylpentane β-monoxime (Diels, Budden-BERG, and WANG), A., 253.

3:4:3':4'-Tetraketo-3:4:3':4'-tetrahydro-1:1'-dianthracene (Eckert and Hampel), A., 882.

Tetrakisazo-dyes (Oesch and Newport Co.), (P.), B., 246. Tetralin. See Tetrahydronaphthalene.

2-Tetralol. See ar-Tetrahydro-β-naphthol.

Tetramercuri-a-acetonaphthalide acetate (Rossi and Boccii), A., 165.

3:4:6:9-Tetramethoxyanthranol (MACMASTER and PERKIN),. A., 771.

2:4:5:4'-Tetramethoxybenzoylacetophenone (BARGELLINI and GRIPPA), A., 1197.

3:4:3':4'-Tetramethoxydiphenylketipinodinitrile (Piutti and. MAZZA), A., 1072.

3:3':4:4'-Tetramethoxydistyryl ketone tetrabromide (Dickinson, HEILBRON, and IRVING), A., 971.

5:7:3':4'-Tetramethoxyflavone. See Luteolin tetramethyl ether.

5:3:3':4'-Tetramethoxyflavonol, and its acetyl derivative (ATREE: and Perkin), A., 231. 3:4:3':4'-Tetramethoxy-a-methyldistyryl ketone (IWAMOTO), A.,

5:7:3':4'-Tetramethoxy-2-phenylbenzopyrylium chloride, 3-hydr-

oxy- (Karrer), A., 1197. Tetramethoxyphenylethylene perchlorate (Wizinger and Fon-

TAINE), A., 764. 3:4:3':4'-Tetramethoxypulvinic acid, and its methyl ester (Piurri

and MAZZA), A., 1072.

Tetramethoxytriphenylcarbinols (LUND), A., 661.

2:4:2':4'-Tetramethoxytriphenylmethyl chloride (Lund), A., 661. Tetramethoxyvulpinio acid, and its piperidine salt and derivatives

(PIUTTI and MAZZA), A., 1072.

Tetramethyladipic acids, derivatives of (FARMER and KRACOVSKI). A., 447.

pp'-Tetramethyldiaminobenzhydrol salts (Madelung and Völker), A., 147.

pp'-Tetramethyldiaminobenzophenone, perchlorate and acetyl derivative of (Madelung and Völker), A., 55.

4:4'-Tetramethyldiaminodiphenylacenaphthenylearbinol (Rodd and Lincii), A., 1067.

pp'-Tetramethyldiaminodiphenylamine, additive compounds of

(MADELUNG, REISS, and HERR), A., 657. pp'-Tetramethyldiaminodiphenylamine ethiodide (MADELUNG,

REISS, and HERR), A., 657. pp'-Tetramethyldiaminodiphenyl-p-anisylcarbinol (Ropp and

LINCH), A., 1067. pp'-Tetramethyldiaminodiphenylbenzylcarbinol (MADELUNG and VÖLKER), A., 147; (RODD and LINCH), A., 1067.

pp'-Tetramethyldiaminodiphenyl-tert.-butylcarbinol (MADELUNG

and Völker), A., 147.

pp'-Tetramethyldiaminodiphenyl-a-ethoxy-a-ethylthiolmethane (MADELUNG and VÖLKER), A., 55.

as-pp'-Tetramethyldiaminodiphenylethylene perchlorate (MADE-LUNG and VÖLKER), A., 147.

pp'-Tetramethyldiaminodiphenyl-a-ethylthiolacetonitrile (Made-LUNG and VÖLKER), A., 55.

Tetramethyldiaminodiphenylguanidine (NAUNTON), B., 51.

pp'-Tetramethyldiaminodiphenylhydroxybenzyl perchlorate (MADE-LUNG and VÖLKER), A., 147.

pp'-Tetramethyldiaminodiphenylmalononitrile (MADELUNG and VÖLKER), A., 55.

4:4'-Tetramethyldiaminodiphenylmethyleneacenaphthene (Rodd and Linch), A., 1067.

4:4'-Tetramethyldiamimodiphenylmethylenefluorene (Rodd and Linch), A., 1067.

pp'-Tetramethyldiaminodiphenylnaphthylcarbinols (Rodd and Linch), A., 1067.

pp'-Tetramethyldiaminodiphenyl-a-naphthylmethylamine (Rodd and Linch), A., 1067.

aa'-pp'-Tetramethyldiaminodiphenyl-β-phenyl glycol (MADELUNG and VÖLKER), A., 147.

aa'-pp'-Tetramethyldiaminodiphenylpropylene, derivatives

(MADELUNG and VÖLKER), A., 147. as-pp'-Tetramethyldiaminodiphenylstyrene (MADELUNG and VÖL-KER), A., 147.

ββ-pp'-Tetramethyldiaminodiphenylstyrene (Rodd and Linch), A., 1067.

aa-4:4'-Tetramethyldiaminodiphenyl - $\beta\beta$ -4:4'-tetraethyldiaminodiphenylethan-a-ol (RODD and LINCH), A., 1067.

pp' - Tetramethyldiaminodiphenyl - o - tolylcarbinol (Rodd and Linch), A., 1067.

pp'-Tetramethyldiaminodiphenyl-o-tolylmethylamine (Rodd and Linch), A., 1067.

pp'-Tetramethyldiamimodiphenyl-m-4-xylylcarbinol (Rodd and LINCH), A., 1067.

pp'-Tetramethyldiaminoethylbenzhydrol, and its salts and benzoyl derivative (PACE), A., 1184.

Tetramethyldiaminotetraphenylethylene, salts of (Wizinger and FONTAINE), A., 764.

pp'-Tetramethyldiaminotriphenylamine, and its salts (Madellung, Reiss, and Herr), A., 657.

Tetramethylammonium chloroplatinate, crystal structure of (Huggins), A., 1014.

fluoborate (WILKE-DÖRFURT and BALZ), A., 238.

fluorosulphonate (Lange), A., 532. hydroxides and tetroxide (Taube, Burmeister, and Blaser), A., 342.

2:4:2':4'-Tetramethylazoquinoline (SIRCAR and DE), A., 50.

o-Tetramethylbenzhydrylbenzoic acids (WEISS, SPITZER, and MELZER), A., 57.

Tetramethylbenzidine, 2-amino-, and 2:2'-diamino-, derivatives of (Bell and Robinson), A., 876.

and BACH-4:4':4"'-Tetramethylbenzopinacolin (GOMBERG MANN), A., 246.

BAUM, and 1:1:4:6-Tetramethylcoumaranone (v. LORENZ), A., 670.

s-Tetramethyldiethylcthylenediammonium salts (Hanhart and INGOLD), A., 651.

Tetramethyleneatophan, methyl ester of (v. Braun and Zobel), A., 258.

Tetramethylenediamine, synthesis of (Keil), A., 137.

9:10-Tetramethylenetetrophan (v. Braun and Zobel), A., 258. Tetramethylfructose, structure of (HAWORTH, HIRST, and LEARNER), A., 649.

1:3:4:6-Tetramethyl-y-fructose (HAWORTH, HIRST, and LEARNER). A., 1173.

Tetramethylgalactonic acid, phenylhydrazide of (HAWORTH, HIRST, and JONES), A., 1174

Tetramethyl-δ-galactonolactone, oxidation of (HAWORTH, HIRST, and Jones), A., 1173.

Tetramethylgluconolactones, oxidation of (HAWORTH, HIRST, and MILLER), A., 1173.

βγδζ-Tetramethylglucose, action of hydrogen peroxide on (Gustus and Lewis), A., 751.

Tetramethylglucoses, structure of (HAWORTH, HIRST, and MILLER). A., 1173.

βγεζ-Tetramethylglucosides, isomeric (Levene and Meyer), A., 1174.

Tetramethylhæmatoporphyrin (SCHUMM), A., 886. iron salt of (FISCHER and LINDNER), A., 886.

1:1:3:3-Tetramethylhexahydrophthalan. See Anhydro-1:2-di-(hydroxyisopropyl)cyclohexane.

a-Tetramethylcyclohexanone (Cornubert), A., 878.

1:1:2:2-Tetramethylcyclopentan-4-one (FARMER and KRACOVSKI), A., 447.

Tetramethylpyrazolium salts, chloro- (v. Auwers and Bahr), A., 677.

4:6:4':6'-Tetramethylthiopyrindigotin, and its salts (Koenios and Kantrowitz), A., 1207.

Tetramminodinitratocobaltic nitrate. See under Cobalt bases. Tetra-α-naphthylene-ethane (VANSCHEIDT), A., 349.

Tetrapeptide from gliadin (NAKASHIMA), A., 474.

aaδδ-Tetra-p-phenetyl-Δαγ-butadiene(Brand, Wendel, and Horn). A., 550.

 $aa\delta\delta$ -Tetra-p-phenetylbutane, and ββγγ-tetrachloro-WENDEL, and HORN), A., 550.

 $aa\delta\delta$ -Tetra-p-phenetyl- $\Delta a\beta\gamma$ -butatriene, and its dimeride (Brand, WENDEL, and HORN), A., 550.

 $aa\delta\delta$ -Tetra-p-phenetyl- $\Delta\beta$ -butene, $\beta\gamma$ -dichloro-, and its derivatives (Brand, Wendel, and Horn), A., 550. Tetra-p-phenetylethylene sulphide (Schönberg), A., 667.

Tetraphenyls, metallic, isomorphism and crystal structure of (GEORGE), A., 98. 4:4':4":-Tetraphenylbenzopinacol (GOMBERG and BACHMANN),

A., 246.

4:4':4"'-Tetraphenylbenzopinacolim (Gomberg and Bach-MANN), A., 246.

aaδδ-Tetraphenylbutenes, aδ-dihydroxy-, isomeric (Salkind), A.,

aaa'a'-Tetraphenyldiethylene dioxide (GODCHOT), A., 444.

s-Tetraphenyldimethyl other (WARD), A., 1061.

Tetraphenylethane dyes (WIZINGER and FONTAINE), A., 764; (Kehrmann), A., 1067.

 $a\beta\epsilon\zeta$ -Tetraphenyl- $\Delta\gamma$ -hexinene, $a\beta\epsilon\zeta$ -tetrahydroxy-, and its triacetate (Salkind and Komarowskaja), A., 226.

Tetraphenylmethane, coloured derivatives of (Kehrmann and Ronr), A., 1205.

Tetraphenylmethane, and p-hydroxy-, hydrogenation of (IPATIEV and Dolgov), A., 866.

aaβy-Tetraphenyl-Δα-propene (Meisenheimer), A., 957.

Tetraphenylsuccinodilactone, 2:2'-dihydroxy- (Löwenbein and SCHMIDT), A., 1072.

Tetraphenyltetrahydrodianthryl (BARNETT, COOK, and NIXON), A., 349.

Tetrapropylammonium salts, determination of, as tetrathiocyanatodiamminechromiates (Hein and Segitz), A., 1175.

Tetra-2-pyrrylethylene glycol (Godnev and Naryschkin), A., 162.Tetracyclosqualenes, isomeric (HARVEY, HEILBRON, and KAMM),

A., 130.

Tetrathionoxalic acid, and its diethyl ester (SAKURADA), A., 134.

aaδδ-Tetra-p-tolylbutane, ββγγ-tetrabromo-, and ββγγ-tetrachloro-(BRAND, WENDEL, and HORN), A., 549. aaδδ-Tetra-p-tolyl-Δαβγ-butatriene (BRAND, WENDEL, and HORN),

A., 549. aa $\delta\delta$ -Tetra-p-tolylbutene, and $\beta\gamma$ -dibromo-, and $\beta\gamma$ -dichloro-(Brand, Wendel, and Horn), A., 549.

Tetra-p-tolylhydrazinium perchlorate (Weffz and Schwechten), A., 658.

Tetra-o-tolylpinacol (BOYD and HATT), A., 558.

Tetrazolc, salts of (STRAIN), A., 979.

Tetrazoles, preparation of (KNOLL & Co. and SCHMIDT), (P.), B., 172.

Tetrophan, and its derivatives, physiological properties and

structure of (v. Braun), A., 257.

Tetrophan, 2-amino-, 2-chloro-, and 2-hydroxy-, and their derivatives (v. Braun and Jungmann), A., 258.

isoTetrophan, and chloro- (v. Braun and Reutter), A., 258. Tetrophanglucoside (v. Braun and Jungmann), A., 258.

Tetryl, determination of, nitrometrically (Desvergnes), B., 93. Textiles, manufacture of (DREYFUS and CELANESE CORP. OF

AMERICA), (P.), B., 774. treatment of (Voegeli), (P.), B., 472; (I. G. FARBENIND.), (P.),

B., 776.

treatment of continuous lengths of (LAMBRETTE), (P.), B., 329*. use of wetting-out agents for (British Dyestuffs Corp., Baddiley, and Chapman), (P.), B., 841. washing of (Duhamel and Comp. Gen. Ind. Textiles), (P.),

B., 70.

washing and cleaning preparations for (Badische Anilin- & Soda-Fabrik), (P.), B., 295.

drying of (KRANTZ), (P.), B., 474. dressing of (KING), (P.), B., 810.

preparation for sizing of (Galvin), (P.), B., 746.

finishing, mercerisation and ornamentation of (HAUSHEER), (P.), B., 520.

grounding or padding of (I. G. FARBENIND.), (P.), B., 552. carbonisation of (LANE and MELLOR), (P.), B., 472.

waterproofing of (Moreton and Waterproofers, Ltd.), (P.), B., 165.

use of indicator-dyed wool to control operations on (King), B., 873.

extraction of fats from (Beil, Meyer, Rechberg-Ges., and Braun-Ges.), (P.), B., 745.

containing cellulose acctate, production of fabrics by effects on (British Celanese, Ellis, and Mann), (P.), B., 874.

resembling crêpo (DREYFUS), (P.), B., 214.

artificial (DREYFUS), (P.), B., 295. dyed, production of smooth dull surface in (Sallmann), (P.), B., 249.

vegetable, improvement of (Meyer-Sansbeuf Ges.), (P.), B., 746.

testing of (Peirce), B., 934.

ultra-violet radiation as an aid to analysis of (Hirst), B., 933.

Textile fibres. See under Fibres. Textile materials, degreasing of (Kohnstamm & Co.), (P.), B., 873*.

washing or emulsifying agents for (AGTHE), (P.), B., 872. for spinning, manufacture of (N.V. OCTROOI MAATSCHAPPIJ "VEDE"), (P.), B., 774.

Thallium, instantaneous spectrum of (NAGAOKA, NUKIYAMA, and FUTAGAMI), A., 911.

series spectrum of, reversal of lines in (NAGAOKA and FUTAGAMI), A., 706.

ionisation potential of (PICCARDI), A., 811.

vapour, anomalous dispersion in (Kuhn), A., 295.

measurement of the ratio h: k from (Fermi and Rasetti), A., 610, 713.

crystal structure of (Becker), A., 503, 1129; (Levi), A., 1013.

reaction of, with "aluminon" (Corey and Rogers), A., 219. Thallium alloys with antimony (BARTII), A., 730.

with lead, Röntgen-ray study of (McMillan and Pauling), A.,

Thallium salts, action of, on fungi (I. G. FARBENIND.), (P.), B.,

Thallium fluoborate (WILKE-DÖRFURT and BALZ), A., 120. hydroxide, surface tension and viscosity of solutions of (FAUST), A., 409.

chloride, double salt of silver chloride and (LUNDE), A., 97. Thallous carbonates (DE FORCRAND), A., 530.

Thallium organic compounds :-

Thallic chloride, double salt of cocaine and (PACE), A., 265. Thallium determination:-

determination of, as chromate (Moser and Brukl), A., 436. a-Thallium, crystal structure of (Asahara and Sasahara; Sasahara), A., 814.

Thebaine, constitution of (WIELAND and GARBSOH), A., 54; (Schöpf and Winterhalder), A., 472.

properties and reactions of (WAGENAAR), A., 684.

derivatives, preparation of (Boehringer Sohn and Schöff), (P.), B., 460.

Thebainolmethine (Schöff and Borkowsky), A., 1210. Thebainoloxime (Schöpf and Borkowsky), A., 1209.

Thebainone, derivatives of, and its constitution (Schöff and Borkowsky), A., 1209.

Thebainonemethine, and its methiodide and oxime (Schöff and Borkowsky), A., 1209.

Thelykinins, vegetable (Loewe, Lange, and Spoiir), A., 282. Thénardite, separation of, from accompanying rock salt gangue

(STEIN), (P.), B., 906. Theophylline, effect of, on water and chloride exchange between blood and cells (Möller), A., 1219.

Therapeutic action, and chemical constitution (FOURNEAU), A., 172.

Therapeutic agents, manufacture of (I. G. FARBENIND, and FARBW. VORM. MEISTER, LUCIUS, & BRÜNING), (P.), B., 924. Therapeutic materials, manufacture of (Silten), (P.), B., 460.

Thermal conductivity of gases (Hercus and Laby), A., 614.

of metals (Gregory and Archer), A., 506. of metals and alloys (Eucken and Dittrich), A., 506.

Thermions, work of evaporation of (MICHEL), A., 919. Thermionic emission (HALL), A., 391.

Thermionic valves. Sco Valves, thermionic.

Thermochemistry, standardisation of data in (SWIENTOSLAVSKI and Starczewska), A., 22; (Swientoslavski and Bobińska), A., 1142, 1143

Thermo-couples (Heraeus G.m.B.H.), (P.), B., 226; (Hermann and THERMO ELECTRIC BATTERY Co.), (P.), B., 820.

bimetallic element for (CHACE and CHACE VALVE Co.), (P.), B.,

metals and alloys for, for measurement of high temperatures (Roпn), В., 680.

copper-constantan, comparison of, with hydrogen and oxygen thermometers (GIAUQUE, BUFFINGTON, a GIAUQUE, JOHNSTON, and KELLEY), A., 1163. and

Thermodynamics, second law of (Denina), A., 827; (Verschaf-FELT), A., 1027.

experimental basis of third law of (DE Kolosovski), A., 732, Ĩ142.

applications of (Denina), A., 314. relations in (PLACINTEANU), A., 519.

of non-isothermal systems (Rodebush; Eastman), A., 419. Thermo-electric element (HERMANN and THERMO ELECTRIC BAT-TERY Co.), (P.), B., 82*.

Thermo-element for high temperatures (KRUPP and STÄBLEIN), (P.), B., 450.

Thermo-hydrometer (WEBB), A., 1163.

Thermoluminescence, effect of X-rays on (WICK; WICK and SLATTERY), A., 397.

Thermometers, calibration of (Loomis and Walters), A., 128. for cryoscopy of aqueous solutions (MENZEL), A., 335.

new base point on scale of (BATES and PHELPS), A., 1018. ageing of glass of (Holborn and Otto), B., 140.

electrical resistance (Bursill and Electrofic Meters Co.), (P.), B., 561.

nickel electrical resistance (Del Regno), A., 1163. high-temperature (BOYER), A., 100.

hydrogen and oxygen, comparison of, with copper-constantan thermocouples (GIAUQUE, BUFFINGTON, and Schulze; GIAUQUE, JOHNSTON, and KELLEY), A., 1163.

mercury-in-glass, correction for (BERL and KULLMANN), A., 437.

Thermoregulator (Brauns), A., 438; (Collins), A., 849. automatic (SIMON and FISCHER), A., 747.

Thermostats for polarimetry (Patterson), A., 849.

heater for (Cowperthwaite), A., 1048. bimetallie strips for (MILLER), (P.), B., 169.

metals for (FRY and WILSON Co.), (P.), B., 912.

low-temperature automatic (Maass and Barnes), A., 335. Thermotaxy (RINNE), B., 582.

Thevetia Neriifolia, oil from seeds of (Bhattacharya and Ayyar), B., 706.

Thiasine, constitution of (NEWTON; BENEDICT and DAKIN), A.,

and its identity with ergothioneine (NEWTON, BENEDICT, and DAKIN), A., 477.

Thiasine from blood, identity of ergothioneine with (EAGLES and Johnson), A., 369.

Thiazine dyes, biological staining with (HAYNES), A., 281.

Thiazoles (BOGERT and ALLEN), A., 679; (BOGERT and UPDIKE),

Thiazoles, thiol- (TEPPEMA and SEBRELL), A., 887.

Thiazole series (DE), A., 784.

2-a-Thienylbenzoselenazole (BOGERT and STULL), A., 983.

Thioamides (Gatewood and Johnson), A., 62.

rate of formation of, from nitriles (KINDLER), A., 55. condensation of nitriles with (ISHIKAWA), A., 758.

Thioanilides, condensation of nitriles with (ISHIKAWA), A., 758. Thiocarbamide (thiourea), constitution of (LECHER and SIEFKEN),

A., 961. manufacture of (WASHBURN), (P.), B., 125.

reversible transformation of, into ammonium thioeyanate (KAPPANNA), A., 943.

reaction of tellurium salts with (FALCIOLA), A., 951.

Thiocarbanilide, reactions of, and its additive compounds with

metallic halides (Lon and Denn), A., 49.

Thiocarbazides of naphthalene series, manufacture of (British DYESTUTES CORP., DYSON, MASON, and RENSHAW), (P.), B., 902. Thiocarbazido-bis-2-(m - benzamido) - 4 - toluoyl-1'-naphthylaminc-4':6':8'-trisulphonic acid (British Dyestuffs Corp., Dyson, Mason, and Renshaw), (P.), B., 902.

Thiocarbimides (isothiocyanates) (ROSENTHALER), A., 451.

additive compounds of, with oximes, and their autoxidation (Gheorghiu), A., 229.

Thiocarbonyl chloride, interaction of chloro-substituted anilines and (Dyson, George, and Hunter), A., 141.

Thiocyanates, determination of (BICSKEI), A., 331.

determination of, in presence of chlorides, cyanides, and sulphates (Charatz), B., 408.

determination of halides and (KOLTHOFF and VAN BERK), A., 434. Thiceyanic acid, reactions and complex compounds of (Ormont), A., 531.

metallic salts, thiocarbamide in (PRICE and GLASSETT), B., 600. ammonium salt, action of light on concentrated solutions of (WERNER and BAILEY), A., 29; (BHATNAGAR, DUNNICLIFF,

and ALI), A., 947.

recovery of, in coking (GLUUD and KLEMPT), B., 641. reversible transformation of, into thiocarbamide (KAPPANNA), A., 943.

cobalt salt, as a microchemical reagent (Greger), A., 908.

ferric salt (BAILEY), A., 1045. mercury salt, disinfectant mixtures containing (RHENANIA VER. CHEM. FABR., GERNGROSS, and RÜLKE), (P.), B., 93.

molybdenum salt (Krauskopf and Swartz), A., 127.

platinous salt (Ivanov), A., 1162.

tetramethylammonium salt (Audrieth, Smith, Browne, and Mason), A., 1044. Thiocyanogen chloride (LECHER and JOSEPH), A., 46; (KAUF-

MANN), A., 232.

Thiodiazines (Bose), A., 63; (Bose and Ray-Chaudhury), A., 981.

Thiodiazoles (P. C. and S. C. Guna), A., 981.

Thiodiglycol. See Diethyl sulphide, $\beta\beta'$ -dihydroxy-.

Thiodihydraerylic acid, ethyl ester, action of sodium ethoxide on (BENNETT and SCORAH), A., 228.

nitrile of (Nekrassov), A., 1176.

y-Thioglucose disopropylidene ether (FREUDENBERG and WOLF), A., 230.

Thioindigo dyes, vat (Wagner, Brune, Hessenland, Hoffa, Müller, and Grasselli Dystuff Corp.), (P.), B., 212; (Thiess, Müller, Runne, Schaefer, and Grasselli Dyestuff Corp.), (P.), B., 772; (I. G. Farbenind, and Farbw. vorm. Meister, Lucius, & Brünng), (P.), B., 809, 838. greenish-blue to green vat (HERZ, MÜLLER, and GRASSELLI DYESTUFF CORP.), (P.), B., 697.

Thioindoxyl, di- and tri-chloro- (I. G. FARBENIND.), (P.), B., 743.

Thicketones, cyclic (FROMM), A., 1189.

a-Thiol-acids, oxidation of, to sulphonic acids (Levene, Mori, and MIKESKA), A., 1171.

Thiol-group, reaction for (RHEINBOLDT), A., 227.

2-Thion-5:6-acenaphtho-1:3:4-oxadiazine (P. C. and S. C. GUIIA),

Thionacetic acid, and its esters SAKURADA), A., 133.

Thionaphthalides, condensation of nitriles with (ISHIKAWA), A., 758. 1-Thionaphthen-2'-indoleindigo dyes, vat, manufacture of (I. G. FARBENIND.), (P.), B., 743.

Thionbenzoic acid, esters of (SAKURADA), A., 133.

Thionhippuric acid, and its ethyl ester (GATEWOOD and JOHNSON).

Thionine, and its derivatives, staining properties of (HAYNES). A., 281.

2-Thion-5-methylthiol-2:3-dihydro-1:3:4-thiodiazole (P. C. and S. C. Guha), A., 981.

Thion- β -naphthoic acid (SAKURADA), A., 134.

Thionoxalic acid, and its esters (SAKURADA), A., 134.

2-Thion-5:6-phenanthro-1:3:4-oxadiazine (P. C. and S. C. Guha), A., 982.

Thionphenylacetic acid, and its esters (SAKURADA), A., 134. Thionpropionic acid, and its esters (SAKURADA), A., 133.

Thion-p-toluic acid, and its esters (SAKURADA), A., 134.

Thionyl chloride. See under Sulphur.

Thionyl compounds, aromatic, and chloro- (GREEN), A., 354, 457. 1:9-Thionyldihydroxyanthracene, and 4-chloro- (GREEN), A., 1080. Thionyldihydroxyanthracenes (GREEN), A., 457.

1:8-Thionyldihydroxynaphthalene (Green), A., 1080.

Thionylpyrocatechol (GREEN), A., 354. Thionylquinol, dichloro- (GREEN), A., 354.

Thiophen, metallic derivatives of (Krause and Renwauz), A., 891.

Thiosulphates. See under Sulphur.

Thiosulphatopentamminecobaltic salts. See under Cobalt.

Thixotropy of colloids, influence of metals on (FREUNDLICH and RAWITZER), A., 310.

Thorium, metallic (MARDEN and RENTSCHUER), B., 193.

Röntgen-ray lines in L-series spectrum of (Allison), A., 1000. spectra of radon, uranium, and (NAGAOKA and FUTAGAMI),

equilibrium of aluminium with (LEBER), A., 1030.

Thorium oxide (thoria) as catalyst (Hoover and RIDEAL), A., 215. determination of, in tungsten filaments (Brophy and Van Brunt), B., 193.

Thorium organic compounds:-

Thorium chloride, double salt of cocaine and (PACE), A., 265.

Thorium detection :

detection of, in filaments of electric lamps (Selényi), A., 334. Thorium-X, influence of, on activity of emulsion (MAUBERT), A., 1111. action of, on lacease (MAUBERT), A., 483.

Thorotungstite from the Malay States (SCRIVENOR and SHENTON),

A., 748. Threads, artificial, manufacture of (Soc. Fabr. Soil "Rhodia-SETA"), (P.), B., 406; (ERSTE BÖHMISCHE KUNSTSEIDEFABR.), (P.), B., 774; (COURTAULDS, LTD. and LEWIS), (P.), B., 934; (COURTAULDS, LTD. and TOPHAM), (P.), B., 935.

from cellulose derivatives (VER. GLANZSTOFF-FABR.), (P.), B., 184. from viscose solutions (FRANKL), (P.), B., 811.

Thrombin, action of hirudin on (BARRETT), A., 1103.

Thujene, contact transformation of (Zelinski and Kasanski), A., 670.

 β -Thuylideneacetic acid, and its derivatives (Hugh and Kon), A., 1195.

Thymol, synthesis of (Austerweil and Lemay), A., 555.

electrochemical oxidation of (FIGHTER and RINDERSPACHER), A., 353.

derivatives of (Delaby), A., 145.

detection of (WARE), B., 596.

detection and determination of (KLINGSTEDT and SUNDSTROM).

Thymol, chloro-, liquid preparations of (RASCHIC), (P.), B., 237. Thymolbenzein, and dibromo-, and dinitro-, and their salts and derivatives (ORNDORFF and LACEY), A., 457.

Thymoltetrachlorophthalem, and its salts and derivatives, and dibromo- (CORNWELL and ESSELSTYN), A., 458.

Thymus (thymus gland), histone of (Felix and Harteneck),

Thymus-nucleic acid, hydrolysis of, and its action with intestinal juices (THANNHAUSER and BLANCO), A., 268.

nucleal reaction in (FEULGEN), A., 581. Thymyl ketones, hydroxy. Sec 2-Methyl-5-isopropylphenyl ketones, 4-hydroxy.

Thyreoparathyroidectomy, effect of cod-liver oil in (JONES).

Thyroglobulin, iodo- (INGVALDSEN and CAMERON), A., 486. Thyroid (thyroid gland), activity of various preparations and extracts of (CAMERON and CARMICHAEL), A., 486.

Thyroid (thyroid gland), influence of, on stimulation of nerves and on action of adrenaline (Feldberg and Schlif), A., 903. relation between functioning of, and catalase of blood (TIMO-FEJEVA), A., 380. rôle of, in differentiation of bone (HAMMETT), A., 594. effect of hormone of, on cell metabolism (Fleischmann), A., 994. iodine content of, in relation to structure and activity (ABELIN), A., 896. iodine compounds of (Ingvaldsen and Cameron), A., 486. ox, iodine content of (v. Fellenberg and Pacher), A., 1104. determination of iodine in extract of (Reith), B., 764. Thyroxine (HARINGTON and BARGER), A., 358. isolation of (Kendall), A., 486. effect of, on intermediate metabolism (Simon), A., 1223. detection of (Ingualdsen and Cameron), A., 486. assay of (B. M. and E. V. ZAVADOVSKY), A., 1115. Thyroxines, natural and synthetic, spectrophotometric comparison of (ABDERHALDEN and Rossner), A., 1068. Tiles, manufacture of (THOMPSON), (P.), B., 816; (TILBERG and Hellström), (P.), B., 909. decorated, manufacture of (LEFEBURE), (P.), B., 443. Tillandsia usneoides (Spanish moss), constituents of (Schoroer), Tilletia tritici of wheat, adsorption of copper by (Bodnar, Villanyi, and Terenyi), A., 600. Timber, apparatus for drying and seasoning of (Kobiolke), (P.), B., 412. effect of acids on mechanical strength of (ALLIOTT), B., 31. Tin, physico-chemistry of (Cohen and Dekker), A., 818. metallurgy of (SMITH and GUGGENHEIM BROS.), (P.), B., 369. electrodeposition of (Frane), B., 447; (Vulcan Detinning Co. and McIlhenny), (P.), B., 881*. extraction of (F. A. and G. Gruessner), (P.), B., 194. recovery of, from tin-plated materials (JACOBSEN, J. and L. GOFFIN, and RENSON), (P.), B., 942. refining of (SCHERTEL and LUTY), (P.), B., 116*. and its alloys, polishing and etching of (VILELLA and BEREJEкогг), А., 1049. ionised, spectrum of (RAO), A., 390, 911; (LANG), A., 911. are spectrum of (MIYANISHI), A., 2. are and spark spectra of, Zeeman effect and structure in (GREEN and Loring), A., 912. explosion spectrum of (Arakatsu and Shoda), A., 2. spark spectrum of (NARAYAN and RAO), A., 803, 1118. magnetic disturbance of superconductivity of (DE HAAS and Sizoo), A., 11; (Sizoo, DE HAAS, and ONNES), A., 717. influence of elastic deformation on superconductivity of (Sizoo and ONNES), A., 717. and its alloys with copper and bismuth, surface tension of (Drath and Sauerwald), A., 723. coating of metal wires with (PLANER), (P.), B., 490. allotropy of (Travers and Houot), A., 194. equilibrium between cadmium and, and their chlorides (LORENZ), A., 518. occurrence of indium in (GREEN), A., 635. refining and separation of oxysalts of arsenic and (HARRIS), (P.), B., 653. grey, transition of, to white tin (Cohen and Dekker), A., 818. grey and white, specific heats of (COHEN and DEKKER), A., 818. Tin alloys with antimony and copper (Bonsack), A., 418. with bismuth and with copper, internal friction of (SAUERWALD and Töpler), A., 14. with cadmium (Fedorov), A., 517. with copper (MILLER), B., 279. viscosities of (Bienias and Sauerwald), A., 508. equilibria of (Raper), B., 817. saturation limit of (HANSEN), A., 1141. with copper and nickel (OZLBERGER), (P.), B., 560. with copper and silver (GUERTLER and BONSACK), A., 628. with gold (PRESTON and OWEN), A., 815. with lead, hardening of (TRAVERS and HOUOT), B., 846. derived from waste material from lead-smelting works, treatment of (Speichert and Vogel), (P.), B., 881.

eutectic, crystallisation of (HARGREAVES), B., 281.

with magnesium (Hume-Rothery), A., 1029.

(IPATIEV and NIKOLAEV), A., 950.

effect of work and annealing on (HARGREAVES), B., 968.

Tin arsenides, conductivity of (Padoa), A., 734. oxides, reduction of (KERN), B., 680. Stannous chloride, colloidal syntheses by means of (GUTBIER and OTTENSTEIN), A., 307. effect of alkali hydroxides on oxidation of, in air (Мічамото), oxidation of mixtures of sodium sulphite and, in alkaline solution by air (MIYAMOTO), A., 943. iodide, complex compounds of (KARANTASSIS), A., 950. salts, oxidation of (Komaretzkyj), A., 31. unhairing action of (Merrill), B., 535. Stannic chlorido, viscosity, conductivity and specific volume of acetic acid solutions of (STRANATHAN and STRONG), A., 1020. reduction of, by metals (APPLING and REEDY), A., 848. compounds of nitro- and nitroso-compounds with (Reihlen and HAKE), A., 219. halides, solubility of, in liquid sulphur dioxide (Beach and Bond), A., 405. binary compounds of (RAEDER), A., 627. iodide, complex compounds of (Karantassis), A., 950. oxide (cassiferite), solubility of (BOYDELL), A., 956. reduction of (Kern), B., 680. colloidal, structure of (Forster), A., 298. gels, hydroxides in (Hüttig and Döbling), A., 640. analysis of (Wenger and Rogovine), B., 301. Stannic acid, manufacture of (HEBERLEIN), (P.), B., 107. solubility of (DORFMAN and HILDEBRAND), A., 405. sols, adsorption of ions by (GHOSH and DHAR), A., 408. Hexabromostannates (Costeanu), A., 741. Tin organic compounds (LAW), A., 166; (ELÖD and KOLBACH), Tin tetramethyl, influence of, on inflammability of hydrogenair mixtures (Tanaka and Nagai), A., 1145. tetra-2-thienyl (KRAUSE and RENWAUZ), A., 891. trimethyl, derivatives of (HARADA), A., 685. Stannic bromide, compounds of, with aldehydes and bases (Costeanu), A., 1179. chlorido, additive compounds of, with stereoisomerie compounds (HIEBER and SONNEHALB), A., 1077. Tin determination and separation :determination of, potentiometrically (Sandved), A., 127. determination of, toxicologically (Manicke and Lauth), A., 482. determination of, volumetrically (EVANS), A., 1162. determination of, by means of bismuth amalgam (Someya), A., 332, 848. determination of, by eupferron, and its separation from antimony, arsenic, lead, and zinc (PINKUS and CLAESSENS), A., 848. determination of, with ferric chloride using indigo-carmine (Schluttig), A., 223. determination of, in lead (Evans), B., 911. determination of, in solder (Косн), В., 143. determination of, and its separation from arsenic and antimony (Schleicher and Toussaint), A., 222. separation of, from antimony (Brintzinger and Rodis), A., 1047. separation of arsenic and (VULCAN DETINNING Co. and LARRY), (P.), B., 116*. Tin minerals, concentration of (Snelling), (P.), B., 847. Tin ores, treatment of (KRUPP GRUSONWERK), (P.), B., 195; (SULMAN and PICARD), (P.), B., 847. electric smelting of (FREUDE), B., 657. gaseous reduction of concentrates from (Fink and Mantell), B., 369, 680. antimonial, treatment of (ZINNWERKE WILHELMSBURG), (P.), B., 448. Tin plate, reversed potentials in corrosion of (MANTELL and KING), tin-iron alloys in (Kohman and Sanborn), B., 582. Tinospora rumphii. See Makabuhay. Tissues, absorption by (Effront), B., 153. absorption of carbon dioxide by blood and by (Snaw), A., 167. distribution of unsaturated fatty acids in (BLOOR), A., 477. acidity of, and their buffering action (GESELL and HERTZMAN), with silver (IRELAND and LIPMAN REFRIGERATION Co.), (P.), A., 67. buffering of, in relation to carbon dioxide capacity (Brockle-Tin salts, action of hydrogen on, at high temperatures and pressures HURST and HENDERSON), A., 585.

cytolysis in (Laufberger; Hora), A., 375.

Tissues, gelation and fixation of (VAN HERWERDEN), A., 279. kinetics of swelling of (NORTHROP), A., 1108.

growing, metabolism of (Holmes and Watchern), A., 479. lignified, production of pink colour in, by the chloroamine reaction (Wood), A., 704.

transplanted, metabolism and growth of (Wind), A., 373. determination of iron in (Kennedy), A., 987.

Sec also Animal and Plant tissues.

Titanium, atomic weight of (BANTER and BUTLER), A., 86. nltra-violet spark spectrum of (GIBBS), A., 998.

electrochemistry of (Bolts and Krauskoff), A., 1033.

adsorption of hydrogen by (Huber, Kirschfeld, and Sieverts), A., 105.

application of, in industries (Suirokomski), B., 704.

Titanium alloys with aluminium and iron (FLINTERMANN and GEN. ELECTRIC Co.), (P.), B., 819.

Titanium carbide, production of (Maksimenko; Suirokomski), B., 701.

chlorination of (Maksimenko and Eliseev), B., 701. dioxide (titania), manufacture of (Mackay and National Metal & Chemical Bank), (P.), B., 140*; (Suirokomski), B., 701; (Blumenfeld and Fabr. de Prod. Chim. de Thann et de Mulhouse), (P.), B., 748.

change of, into a soluble form (LUBOWSKY and METAL & THERMIT CORP.), (P.), B., 815.

sesquioxide (LUNDE), A., 949.

peroxide, constitution of (SCHWARZ and SEXAUER), A., 325.

Titanous chloride, hydrolysis and oxidation of (GUTBIER, OTTENSTEIN, LEUTHEUSSER, LOSSEN, and ALLAM), A., 620. synthesis of colloids by means of (GUTBIER and OTTENSTEIN), A., 932; (GUTBIER and LEUTHEUSSER; GUTBIER, OTTENSTEIN, and ALLAM), A., 933.

use of, in determination of copper and iron (EMMETT),

A., 1047.

sulphate, manufacture of (Spence & Sons, Kirkham, and Spence), (P.), B., 188.

stability of solutions of, in air (Wilkinson and Tyler), B., 364, 652.

standardisation of solutions of (Thornton and Wood), B., 187.

Titanic chloride, production of (Beloglazov; Oreshkin), B., 652; (Suirokomski), A., 701.

solubility of, in liquid sulphur dioxide (Beach and Bond), A., 405.

compounds of nitro- and nitroso-compounds with (Reihlen and Hake), A., 219.

nitrate (Reinley and Hake), A., 219.

Titanic acid, production of, unaffected by light (Deutsche Gaschühlicht-Auer-Ges.), (P.), B., 251.

determination of, in refractory earths (LEMAL), B., 602.

Titanium organic compounds (GIUA and MONATH), A., 1168.

Titanium halides, additive compounds of, with oxygenated organic substances (SCAGLIARINI and TARTARINI), A., 56.

Titanic acid, double salt of cocaine and (PACE), A., 265.

Titanium determination and separation :-

determination of, in alloy steel (ROESCH and WERZ), B., 335. separation of, from tantalum and niobium (SCHOELLER and DEERING), B., 940.

separation of, from uranium (ANGELETTI), A., 333.

Titanium ores, recovery of titanic acid, iron, and magnesia from (BACHMAN), (P.), B., 364.

Tizerah extracts, fluorescein and fluorescence reactions of (Gerngross and Hünner), B., 853.

Tobacco, treatment of (Kelland), (P.), B., 93.

bacterial decomposition of (FAITELOWITZ), A., 385.

arsenic in (REMINGTON), A., 798.

extraction of nicotine from, and its waste products (Sartig), (P.), B., 317.

decomposition of nicotine in fermentation of (Fodor and Reffenberg), A., 907.

relation of nitrates to frenching of (VALLEAU and JOHNSON), A., 385.

virus, study of quantitative and purification methods in (McKinney), B., 764.

detection of nicotine in (Heiduschka and Muth), B., 570. determination of nicotine in (Young), B., 123; (Frank), B., 796.

and its smoke, determination of nicotine in (Pfyl and Schmitt), B., 955.

Tobacco extracts of high nicotine content (SCHACHT), (P.), B., 199.

Tobacco extracts, green, zymase in (Fodor and Conn), A., 592.

Tobacco juice, preparation of sols by means of (JANEK), A., 410.

Tobacco leaves, changes in, before and during fermentation (Neuberg and Kobell), A., 385.

respiration of, while drying (Fodor and Reifenberg), A., 284.

Tobacco smoke, effect of, on peptie digestion (Vascellari and Pennati), A., 591.

"Togal," lithium content of (VALENTIN and LIEBER), B., 203.

Tolane, hydrogenation of (Salkino and Lijin), A., 453.

Tolane-2:2'-disulphonic acid, 4:4'-dinitro-, and its salts and derivatives (Ruggli and Pever), A., 48.

p-Tolualdoxime, ω-chloro-, and its p-toluidino-derivative (RHEIN-BOLDT, DEWALD, JANSEN, and SCHMITZ-DUMONT), A., 245. Toluene, tautomerism of (SCHORIGIN), A., 54, 757.

purification of, for thermo-regulators (Beal, and Souther),

density of mixtures of acetic acid with (WOODMAN), A., 196. adsorption of, by silica gels impregnated with carbon (Fells and Firth), B., 135.

Toluene, 5-amino-2:6-dihydroxy-, hydrochloride of, and 5-nitroso-2:6-dihydroxy-, and its salts (Henrich and Herold), A., 1183.

3:4:5-triamino-, and 3-nitro-4:5-diamino-, and their acetyl derivatives (Lindemann and Krause), A., 469.

2:4-dichloro-5-nitro- (Dadswell and Kenner), A., 456.

o-nitro-, dielectric constants of salts in (WALDEN and WERNER), A., 307.

2:4-dinitro-, molecular organic compounds of (Buchlett and Hear), A., 141.

trinitro-, equilibrium of glyceryl trinitrate with (Tamburrini), A., 830.

removal of tetranitromethane from (Gärtner), (P.), B., 574. Toluenes, dinitro-, manufacture of (British Dyestuffs Corp., Rodd, and Evenatt), (P.), B., 101.

nitrothiocyano- (Bogert and Allen), A., 679.

p-Tolueneazo-1-methylpyrrole, and its trinitrobenzene compound (Reichstein), A., 573.

9-Tolueneazo-10-phenanthrols, and their metallic compounds (CRIPPA and VENTURINI), A., 1180.

Toluenediazonium chlorobismuthates (CHARRIER), A., 1064.

fluoborate (WILKE-DÖRFURT and BALZ), A., 238. fluorosulphonate (LANGE), A., 532.

Toluene-o-diazonium sulphonic acid, sodium salt (HALL and GIRES), A., 1181.

Toluene-2:4-disulphonyl fluoride (STEINKOPF), A., 964.

Toluene-m-seleninic acid (PORRITT), A., 267.

3-p-Toluenesulphamidocarbazole, and its derivatives (Manjunath), A., 978.

Toluenesulphinic acids, 4-nitro-, and their salts (Coffey), A., 165.

p-Toluenesulphonamide, action of, on a3-dibromobutane (MULLER and SAUERWALD), A., 884.

4-p-Toluenesulphonazophenol, and its benzoate (Borsche and Frank), A., 51.

Toluene-ω-sulphondiethylamide (C. K. and E. H. INGOLD and Shaw), A., 550.

p-Toluenesulphondimethylamide (STEINKOPF), A., 964.

Toluene-ω-sulphondimethylamides, nitro- (C. K. and E. H. INGOLD and SHAW), A., 559.

Toluene-ω-sulphonethylamides, nitro- (C. K. and E. H. INGOLD and Shaw), A., 550.

Toluene-3-sulphonic acid, 6-chloro-5-nitro-, sodium salt (Schultz and Lucas), A., 235.

4-nitro-, potassium salt (Coffey), A., 165.

Toluene-4-sulphonic acid, alkylation with esters of, and its ay dichloropropyl ester (BLANCHARD), A., 853.

p-hydroxyphenyl ester (Borsche and Frank), A., 51.

3:5-dinitro-o-tolyl ester, derivatives of (Borsche and Fesse), A., 239.

Tolyang-Asylphonic acid, firehloro, 2-nitro, preparation of (I. C.)

Toluene-4-snlphonic acid, 6-chloro-2-nitro-, preparation of (I. G. FARBENIND.), (P.), B., 276.

Toluene-5-sulphonic acid, 4-nitro-2-amino-, and its salts (COFFEY), A., 165.

Toluene-ω-sulphonic acid, and p-nitro-, derivatives of (C. K. and E. H. Ingold and Shaw), A., 550.

Toluene-a-sulphonmethylamide, and nitro- (C. K. and E. H. Ingold and Shaw), A., 559.

4-p-Toluenesulphonmethylamidodiphenyl, 3-nitro-, and its acetyl derivative (Bell and Robinson), A., 657.

31

Toluene compounds, Me = 1.

1-p-Toluenesulphonmethylanilide, 2-nitro- (Bell and Robinson), A., 657.

p-Toluenesulphon-2-nitroanilide (Bell and Robinson), A., 657. Toluene-ω-sulphon-p-phenetidide (Marvel and Gillespie), A., 66.

7-Toluenesulphonpheuylhydrazide (Borsche and Frank), A., 51.
Toluenesulphonyl fluorides, and amino-, and its acetyl derivative, and nitro- (Steinkopp), A., 964.

phenyl disulphides, substituted (Brooker, Child, and Smiles), A., 757.

o-Tolu-o-hydroxylaminobenzylamide, and its derivatives (v. Auwers and Frese), A., 161.

Toluic acid, hydroxy-, nitration of, with mixed nitrosulphuric and fuming nitric acids (RINKES), A., 144.

m-Toluic acid, 2-amino-, benzoyl derivative (Kruber), A., 158. 5-thiol-2-hydroxy- (British Dyestuffs Corp., Saunders. and Mendoza), (P.), B., 8.

p-Toluic acid, dithio-, and its cthyl ester (SAKURADA), A., 134. o-Toluidine, equilibrium of lactic acid, water, and (ANGELESCU), A., 1030.

sulphonation of (Schultz and Lucas), A., 235.

m-Toluidine, 2:4:6-tribromo-, acetyl derivative (Bureš), A., 763. p-Toluidine, equilibrium of phenol with (Pushin), A., 22.

p-Toluidine, 5-bromo-2-iodo-, 3:5-dibromo-, 2-mono-, 2:5-di-, and 2:3:5-tri-iodo-, and their acetyl derivatives (NICOLET and SANDIN), A., 868.

Toluidines, catalytic preparation of (Briner, Ferrero, and Pallard), A., 49.

vapour pressure of (BERLINER and MAY), A., 506.

migration of triphenylmethyl group in (VAN ALPHEN), A., 867.

isomeric, analysis of mixtures of (Evers and Strafford), A., 359.

o- and m-Toluidines, 4:5:6-trichloro- (I. G. FARBENIND.), (P.), B., 743.

p-Toluidinedisulphonic acids, derivatives of (Lustic and Katscher), A., 867.

o-Toluidine-4-sulphonic acid, 6-chloro-, preparation of (I. G. FARBENIND.), (P.), B., 276.

p-Toluidine-2-sulphonyl fluoride (STEINKOPF), A., 964.

1-o-Toluidino-1-cyanocyclopentane (Oakeshott and Plant), A., 355.

a-o-Toluidino-aβ-dibenzoylethylene (Dupont), A., 1055.

2-o-Toluidino-2:5-dimethylcoumaranone (v. Auwers and Lorenz), A., 60.

β-p-Toluidinoethane, α-nitro- (WORRALL), A., 761.

4-p-Toluidino-1-cyclohexylaminoanthraquinone (I. G. FARBENIND.), (P.), B., 809.

5-p-Toluidino-2-keto-2:3-dihydro-1:3:4-thiodiazole (Guila and Sen), A., 784.

Toluidino-m'-nitrophenylacetonitriles (Heller and Schütze), A., 559.

1-o-Toluidinocyclopentane-1-carboxylic acid, and its derivatives (OAKESHOTT and PLANT), A., 355.

7-p-Toluidino-2-phenylbenztriazole-4:5-quinone (Fieser and Ames), A., 1198.

2-p-Toluidinothiolbenzophenone, 5-nitro- (FRIES, EISHOLD, and VAHLBERG), A., 783.

2-p-Toluidino-5-thiol-1-p-tolyl-1:3:4-triazole, and its derivatives (Guha and Sen), A., 784.

o-Tolu-o-nitrobenzylamide (v. Auwers and Frese), A., 161. p-Toluoyl chloride, 2-nitro- (Weil and Wierzbicka), A., 240. 8-o-Toluoyl-1-naphthoic acid (Weiss and Fastmann), A., 466. Toluoyl-6-nitroindazoles (v. Auwers and Demutii), A., 260.

o-Toluquinaldine. See 2:8-Dimethylquinoline. 8-p-Toluylidene-2-nitrofluorene (LOEVENICH and LOESER), A.,

2-p-Toluyloxybenzanthrone (I. G. FARBENIND.), (P.), B., 870.

Tolyl benzhydryl ethers (Helleron and Hill), A., 1082. o-Tolyl ethyl ether, 3:5-dichloro- (Bureš), A., 554.

methyl ether, 4:6-dibromo-, and 4:6-dibromo-3:5-dinitro-(Kohn and Rabinoversch), A., 967.

disulphide, 3:3'-dinitro- (Bogert and Allen), A., 679.

triphenylmethyl and α - and β -naphthylmethyl ethers (Schorr-GIN), A., 54.

p-Tolyl β-hydroxyethyl ether, 3-nitro-, and its derivatives (I. G. FARBENIND.), (P.), B., 324. methyl ketoxime o-phenylcarbamate (GHEORGHIU), A., 230. triphenylmethyl ether (VAN ALPHEN), A., 660.

Toluene compounds, Me = 1.

p-Tolyl groups, relative affinity of (TIFFENEAU and LAVY), A., 769.

N-p-Tolylacetamidine (Brunner, Matzler, and Mössmer), A., 867.

2-p-Tolylaminoanthraquinone, 1-amino- (I. G. FARBENIND.), (P.), B., 211.

β-p-Tolyl-δ-o-anisyl thiosemicarbazide (Bose and Ray-Chaunhury), A., 981.

1-7-Tolylbenziminazole, 5-amino-, 4-chloro-5-amino-, and 5-hydroxy-, and their derivatives (Fries, Modrow, Raeke, and Weber), A., 780.

2-p-Tolylbenz-4':5'-isothiazolium salts (Fries, Eishold, and Vahlberg), A., 782.

2-p-Tolylbenztriazole, 4:5-dichloro-6:7-dihydroxy-, and its diacetate, and 4:5:7-trichloro-6-hydroxy- (Fries, Sudhoff, and Brettschneider), A., 778.

o-Tolylbenzylidenenaphthalan (Weiss and Fastmann), A., 466. p-Tolylbenzylidenephthalan (Weiss and Fastmann), A., 466.

γ-p-Tolyl butylmethyl ketone, and its derivatives (Rupe and Schütz), A., 58.

p-Tolyl triehloroethylidenemethyl ketone (Sen and Barat), A., 578.

p-Tolyl γγγ-trichloro-β-hydroxypropyl ketone (Sen and Barat),
 A., 578.
 2-p-Tolyleinehoninic acid, and its silver salt and methyl ester (v.

2-p-Tolyleinehoninic acid, and its silver salt and methyl ester (v. Braun and Brauns), A., 675.

p-Tolyldiazonium fluoborate (Balz and Schiemann), A., 654. Tolyldiguanides, zinc salts (I. G. Farbenind.), (P.), B., 349.

a-p-Tolyl-aβ-dihydrocoumarilic acid, and its derivatives (King), A., 358.

2-p-Tolyl-4:5-diketo-4:5-dihydroglyoxaline (Mittar and Siniia), A., 577.

2-p-Tolyldimethyl-Bz-tetrahydroquinazolines (MITTER an BHATTACHARYA), A., 977.

s-p-Tolyldimethylthiocarbamide (Hunter and Styles), A., 680. Tolylene-3:4-diamine, compound of, with nickel (Feigl and Fürth), A., 1179.

p-Tolylene-3:4:3':4'-sulphonylide, 5:5'-dinitro- (Anschütz and Cürten), A., 1183.

β-p-Tolylethyl bromide (v. Braun and Wirz), A., 254.

p-Tolylethyl bromides, isomeric, preparation and hydrolysis of (Shoesmith and Connor), A., 962.

β-p-Tolylethylaminoacetic acid, derivatives of (v. Braun and Wirz), A., 254.

o-Tolylethylcarbamyl azide (Stollé, Nieland, and Merkle), A., 886.

chloride (Stollé, Nieland, and Merkle), A., 886. and its decomposition with ethyl alcohol (Price), A., 142.

p-Tolylethylcarbamyl azide and chloride (Stolle, Nieland, and Merkle), A., 1203.

β-p-Tolylethyldimethylamine (Kindler), A., 759.

β-p-Tolylethylphthalimide (v. Braun and Wirz), A., 254.

1-p-Tolyl-2-ethyl-3:4-trimethylene-5-pyrazolone (Mannich), (P.), B., 869.

p-Tolylgermanic acid anhydride (Orndorff, Tabern, and Dennis), A., 1211.

a-Tolyl-a-cyclohexylhydrazines, and their salts and derivatives (Busch and Haase), A., 554.

β-p-Tolylhydrazinoethane, α-nitro- (Worrall), A., 761. p-Tolylideneamylamine (Skita and Wulff), A., 765.

p-Tolylidenepyruvic acid (Skita and Wulff), A., 765.

2-Tolylimino-3:5-diphenyl-2:3-dihydro-1:3:4-thiodiazines (Возг and Ray-Спаидииху), А., 981.

2-p-Tolylimino-5-methylthiol-2:3-dihydro-1:3:4-thiodiazole, and its acetyl derivative (Р. С. and S. С. Guila), А., 982.

Tolyliminophenyltolyl-2:3-dihydro-1:3:4-thiodiazines (Bose and Ray-Chaudhury), A., 981.

2-p-Tolylimino-5-tbiol-2:3-dihydro-1:3:4-thiodiazole, and its disulphide (P. C. and S. C. Guha), A., 982.

2-p-Tolyl-5-ketoisoglyoxaline, 4-chloro- (Mittar and Sinha), A., 577.

2-p-Tolyl-8-methoxyquimazoline, and its salts (Tröger and Sabewa), A., 1090.

1-p-Tolyl-5-methylbenzpyrazolone (Stollé, Nieland, and Merkle), A., 1204.
o-Tolylmethylcarbamyl azide and chloride (Stollé, Nieland, and

Merkle), A., 885. 1-p-Tolyl-5-methyl-3-di-p-tolylmethyleneindene (Brand, Wendel,

1-p-Tolyl-5-methyl-3-di-p-tolylmethyleneindene (BRAND, Wi and Horn), A., 549. Toluene compounds, Me = 1.

a-p-Tolyl-a-methylpropaldehyde semicarbazone (Tiffeneau and Lévy), A., 769.

a-p-Tolyl-β-methyl-n-propyl alcohol, β-iodo- (Tiffeneau and Lévy), A., 769.

a-p-Tolyl- β -methylpropylene oxide (Tiffeneau and Lévy), A., 769.

5(3)-m-Tolyl-3(5)-methylpyrazole, 2'-hydroxy-, and its acetates (WITTIG and BLUMENTHAL), A., 668.

5-m-Tolyl-3-methylpyrazole-1-carbonamide, 6'-hydroxy- (Wittig and Blumenthal), A., 668.

5-m-Tolyl-3-methylpyrazole-1-carboxylic acid, 2'-hydroxy- (Wittig and Blumenthal), A., 668.

2-p-Tolylmethyl-Bz-tetrahydroquinazoline, and 4-hydroxy- (MIT-TER and BHATTACHARYA), A., 977.

o-Tolylnaphthalide (WEISS and FASTMANN), A., 466.

2-p-Tolyl-1:2-naphthatriazoles, amino- (I. G. FARBENIND.), (P.), B., 360.

m-Tolyloxide, potassium, interaction of aliphatic esters with (Ѕмітн), А., 213.

m-Tolyloxide, trinitro-, thallous and hexamethylguanidinium salts (Lecher, Graf, Gnädinger, Bolz, and Chudoba), A., 863. Tolyloxides, 3:5-di- and 2:4:6-tri-bromo-, and 2:4:6-trichloro-, metallic derivatives of (Bureš), A., 763.

m-Tolyloxyacetic acid, ethyl ester (SMITH), A., 213.

β-p-Tolylpropionitrile (v. Braun and Wirz), A., 254.

p-Tolyl δ -phenylhydrazino- β -p-tolyl- $\Delta \alpha \gamma$ -pentadienyl ketone phenylhydrazone (DIELS and ALDER), A., 465.

γ-p-Tolyl-n-propylamine, and its salts and derivatives (v. Braun and WIRZ), A., 254.

γ-p-Tolylpropylaminoacetic acid, derivatives of (v. Braun and Wirz), A., 254.

γ-p-Tolylpropylamylamine, and its hydrochloride and nitrobenzoyl derivative (SKITA and WULFF), A., 765.

2-p-Tolylquinoline, and its salts (v. Braun and Brauns), A., 675. o-Tolylselenoglycollic acid (Porritt), A., 267.

Tolyl-3:4:3':4'-sulphonylide-5:5'-disulphonyl chloride, derivatives of (Anschütz and Cürten), A., 1183.

2-p-Tolyl-Bz-tetraliydroquinazoline, 4-hydroxy- (Mitter and Bhattacharya), A., 977.

p-Tolylthioacetdimethylamide (KINDLER), A., 759.

o-Tolylthiocarbimide, 3:5-dibromo-, and 3-nitro- (Dyson, George, and Hunter), A., 351.

o-Tolyltbioglycollic acid, chloro- (Soc. CHEM. IND. IN BASLE), (P.), B., 360.

m-Tolylthioglycollic acid, 4:6-dichloro- (HERZ and GRASSELLI DYESTUFF CORP.), (P.), B., 674.

 δ -p-Tolylthiosemicarbazidedithiocarboxylic acid, methyl ester (P. C. and S. C. GUHA), A., 982.

4-p-Tolylthiourazole, and its dimethyl derivative (Guha and Sen), A., 784.

1-p-Tolyl-3:4-trimethylene-5-pyrazolone (Mannich), (P.), B., 869. 2-p-Tolyl-2:5:5-trimethyltetrahydrofuran (Rupe and Schütz), A.,

y-p-Tolylvaleric acid, derivatives of (Rupe and Schütz), A., 58. Tomatoes, effect of manganese on growth of (Schreiner and Dawson), B., 343.

Tomato plants, effect of phosphorus on composition of (Mac-GILLIVRAY), A., 599.

Tools, manufacture of, from hard metal alloys (KRUPP, A.-G.), (P.), B., 658.

of high mechanical strength, material for manufacture of (Stahlwerke Röchling-Buderus A.-G.), (P.), B., 970. for repairing gas retorts (Milbourne and Poulson), (P.), B., 135

high-speed alloys for, determination of cobalt and other elements in (Schiffer), B., 845. non-ferrous alloy for (Wissler and Haynes Stellite Co.),

(P.), B., 16.

of tungsten carbide (LOHMANN), (P.), B., 303.

edge, steel for (v. Vegesack), (P.), B., 448. machine, hardening bath for (GLOCKENSTAHLWERKE A.-G. VORM. LINDENBERG and SCHRÖDER), (P.), B., 819.

Topochemical reactions (Kohlschütter), A., 948.

Torbanite (NASH), B., 129. Torulin, synthesis of, by yeast (HAWKING), A., 796.

concentration of, by means of "norit" charcoal (KINNERSLEY and Peters), A., 904.

Towers, cooling (Lewis), (P.), B., 639.

Toxicity, determination of (TREVAN), A., 792. in relation to electromotive action of drugs (Beutner), A., 991.

Toxicosis, proteinogenous (TSCHERKES), A., 481.
Toxins, action of fatty acids and soaps on (SEDALLIAN and VELLUZ), A., 903.

modified (LARSON), (P.), B., 317. Trade waste, treatment of (SNELL and BRUCE), B., 270. from mercerising plant, disposal of (HADLEY), B., 270.

Tragacanth, and its mucilage (Evers and McLachlan), B., 567. Tragopogon pratensis, constituents of latex of (Zellner), A., 598.

Transformers, prevention of oxidation of oil in (Kubler and A.-G. Brown, Boveri, & Cie.), (P.), B., 786.

newly-filled, control of oils in (THONER), B., 132. Transformer oils, evaluation of (FORD), B., 960.

prevention of acidity in (RODMAN and WESTINGHOUSE ELECTRIC & Manuf. Co.), (P.), B., 771.

sludge-removal treatment of (EVANS and WARRFIELD & Co.). (P.), B., 386.

oxidation of (Schlaepfer), B., 132.

examination of, kept in the dark (v. DER HEYDEN and TYPKE), B., 98.

resinification value of (Hoeg), B., 272.

highly refined, influence of salts and organic compounds on oxidation of (v. der Heyden and Typke), B., 899. used, regeneration of (Wischin), B., 547.

Transition points, determination of (Cannegieren), A., 818. Translucent articles, manufacture of (EGGIMAN and PEREA), (P.), B., 854*.

Transmutation by electronic bombardment (GARRETT), A., 393. Transport numbers, determination of (MACINNES, COWPERTHWAITE, and HUANG), A., 831.

Trapa bispinosa, food value of nut of (BRAHMACHARI and CHATTER-JEE), B., 954.

Trees, chemistry of bark of (Zellner), A., 387. nitrogenous material in (Combes), A., 488.

Triacetaldehyde, mono- and di-thio- (LEBEDEV and PLATONOV), A., 751.

trithio- (MÜLLER and SCHILLER), A., 672.

Triacetatomercuri-m-iodoaniline (Vecchiotti), A., 1098.

5:6:2'-Triacetoxy-5'-bromobenzylidenecoumaranone (FEIST and SIEBENLIST), A., 671.

KKK-Triacetoxymercuri-i-ketoundeeoic acid, mercuric salt and ethyl ester (MYDDLETON and BARRETT), A., 1053.

1:3:4-Triacetoxy-2-phenylnaphthalene (RADULESCU and Guzor-GIU), A., 244.

Triacetylacetoneuranic acid, amine salts (HAGER), A., 608.

Triacetyldextrose, and 1-fluoro-, 6-chlorohydrins of, and 1:6-dichloro-, and 6-chloro-1-bromo- (Helferich and Bredereck), A., 1056.

Triacetyl-β-methyldextrose G-triphenylmethyl ether (Helfenich and Schneidmüller), A., 1057.

Triacetyl-β-methylglucoside 6-chlorohydrin (Helperica and Bredereck), A., 1057.

Triacetyl-d-8-methylglucoside 6-chlorohydrin (Helferich and Schneidmüller), A., 1057.

Triacetylmethylglucosides, and their derivatives (HELFERICH, Bredereck, and Schneidmüller), A., 1174.

Triacetylpyrogallol-o-carboxylic acid, and its pharmacological action (Frankel), A., 696.

2:3:4-Triacetyl-6-triphenylmethylmethylglucosides, hydrolysis of (HELFERICH, BREDERECK, and Schneidmüller), A., 1174. n-Triscontane, oxidation of (Francis and Wood), A., 958.

Triallylarsine (Grischkevitsch-Trochimovski and Zamerzycki), A., 233.

Trianhydrobisbenzoylacetaldehydephloroglucinol (PRATT, ROBERTson, and Robinson), A., 1083.

Trianhydroglucosecycloacetoacetic acid, ethyl ester (WEST), A., 1173.

Trianhydrostrophanthidin, oxidation of (Jacobs and Gustus), A., 1194.

2:4:6-tri-p-hydroxy-Trianilinophloroglucinol, (POLLAK and Gebauer-Fülnego), A., 354.

2:4:6-Trianilinopyrimidine (Winkelmann), A., 678.

Tri-o-anisylmethane (LUND), A., 661.

Tri-o-anisylmethyl, and its derivatives and peroxide (LUND), A., 661.

Triaryl phosphates, liquid, from gas mixtures (I. G. FARBENIND. and CHEM. FABE. GRIESHEIM-ELERTEON), (P.), B., 428. Triarylamines, ammonium character of (Werrz and Schwechten), A., 49, 351.

Triarylcarbinols, synthesis of (Ropp and Linch), A., 1667.

Triarylmethane dyes (I. G. Farbenind, and Akt. Ges. Anilin-Fabr.), (P.), B., 324; (I. G. Farbenind.), (P.), B., 550; (BRITISH DYESTUFFS CORP., RODD, and LINCH), (P.), B., 598. synthesis of (Rodd and Linch), A., 1067.

acid (I. G. FARBENIND.), (P.), B., 579. chrome, manufacture of (I. G. FARBENIND.), (P.), B., 742.

Triazines (Bertho), A., 679.

synthesis of, from aminoguanidine and diketones (DE), A., 979. 1:3:5-Triazine-2:4:6-tricarboxyl chloride, preparation of, and vat dyes from it (OTT), (P.), B., 470.

1:2:4-Triazole, salts of (STRAIN), A., 979.

Triazoles (Brunner and Medweth; Gabel and Schmidegg; Hernler and Matthes), A., 468; (Hernler), A., 1090. and their derivatives (GRÜNER, BENES, SCHUBERT, and ARMAN),

Triazoles, dicyano-, and their sodium salts (Fialkov), A., 1205. Tribenzoatouranic acid, ammonium salt (Weinland and Hager), A., 358.

Tribenzylhydrazine, tri-o-bromo-, hydrochloride (Kenner and Wilson), A., 655

Triboluminescence (RENZO), A., 712.

αββ'-Tricarbethoxyisobutyrylsuccinic acid, ethyl ester (Robinson and ZAKI), A., 1186.

Tricarbomethoxymethane, bromo- (CAROTHERS), A., 148. Tri-3:5-dichloro-o-tolyl phosphate (Bureš), A., 554.

Tri-2:4:6-trichloro-m-tolyl phosphate (Bureš), A., 763.

Δαλ-Tridecadi-inene, and its copper and silver compounds (Les-PIEAU), A., 336.

Tridecalactone (CHUIT, BOELSING, HAUSSER, and MALET), A., 445.

Tridecane-βy-diol (Chuit, Boelsing, Hausser, and Malet), A., 445.

 $\Delta\lambda$ -Tridecenoic acid, and its methyl ester (Tomecko and Adams), A., 339.

n- and iso-Tridecenoic acids, and their esters (Chuit, Boelsing, HAUSSER, and MALET), A., 445.

Tridecenols, and their derivatives (CHUIT, BOELSING, HAUSSER, and Malet), A., 445.

Tridecenylmalonic acid, methyl ester (Chuit, Boelsing, Hausser, and Malet), A., 446.

Tridecoic acid, µ-bromo-, methyl ester (Chuit, Boelsing, and MALET), A., 446.

γ-hydroxy- (CHUIT, BOELSING, HAUSSER, and MALET), A., 445.

Tridymite, structure of (GIBBS), A., 10.

Triethoxyethylene. See Ethoxyketen diethylacetal.

2:4:6-Triethoxypyrimidine (Winkelmann), A., 678.

Triethylacetoxyethylammonium iodide (Jones and Major), A.,

Triethylamine, surface tension of aqueous solutions of (Schnell),

velocities of reaction of benzyl bromide with, in various solvents (Muchin, Ginsburg, and Moissejeva), A., 524.

velocity of formation of quaternary ammonium salts from benzyl chloride, nitrobenzyl chloride, and (McCombie, Scarborough, and Smith), A., 524.

Triethylbenzoyloxyethylammonium iodide (Jones and Major),

Triethylcellulose (Hess and Müller), A., 861.

Triethylenediaminecadmium chloroplatinate (Grünberg PSCHENITZIN), A., 31.

Triethylenediaminecobaltic thiosulphate (Rây), A., 742.

Triethylenediaminecopper chloroplatinite (Grünberg and Pschenitzin), A., 31.

Triethylenediaminezine chloroplatinite (Grünberg and Pschenit-ZIN), A., 31.

Triethyl-s-methyl-\psi-thiocarbamide (Lecher, Graf, Grädinger, Bolz, and Chudoba), A., 863.

Trigalloylarsenic acid, and its derivatives (ILJIN), A., 151. Trihexosan, and its acetate (HESS and MICHEEL), A., 1058. Tricyclohexylamine, and its salts (HIERS and ADAMS), A., 552. Tricyclohexylcarbinol (Zelinski and Gaverdovskaja), A., 457.

Tricyclohexylmethyl bromide (Zelinski and Gaverdovskaja), A., 457.

2:3:5-Triketo-6-benzylpiperazine (Bergmann and Miekeley), A., 1202.

2:4:6 - Triketo - 3:5 - dimethyl - 1:3:5 - oxadiazine Тасневсне), А., 346.

4:6:7-Triketo-4:5:6:7-tetrahydroindazole, 5:5-dichloro-, and its derivatives (Fries and Tampke), A., 784,

Triketotrimethylenetriphenylmethane-4:4'-dicarboxylic acid, its trisodium salt (WEISS, SPITZER, and MELZER), A., 57.

Trimalonatovanadous acid, salts of (SCHRAMM), A., 543. 3:4:5-Trimethoxyacetophenone, 2-nitro- (OVERMYER), A., 459.

1:2:7-Trimethoxyanthracene (MACMASTER and PERKIN), A., 771. 3:4:6-Trimethoxyanthranol, and its acctyl derivative (MACMASTER and Perkin), A., 771.

1:2:6-Trimethoxyanthraquinone, 5-hydroxy- (Puntambeker and Adams), A., 363.

1:2:6-Trimethoxy-9-anthrone, 5-hydroxy- (Puntambeker and Adams), A., 363.

3:4:5-Trimethoxybenzoic acid, 2-amino- and 2-nitro-, and its derivatives (OVERMYER), A., 459.

3':4':5'-Trimethoxybenzophenone, 2:4-dihydroxy- (Bargellini and Grippa), A., 465.

3:4:5-Trimethoxybenzoylacetic acid, 2-nitro-, potassium salt and ethyl ester (Overmyer), A., 459.

3:4:5-Trimethoxybenzoylacetoacetic acid, 2-nitro-, salts and othyl ester (Overmyer), A., 459.

3:4:5-Trimethoxybenzoylacetonitrile, 2-nitro- (OVERMYER), A.,

3:4:5-Trimethoxybenzoylcyanoacetic acid, 2-nitro-, ethyl ester (OVERMYER), A., 459.

3:4:5-Trimethoxybenzoylmalonic acid, 2-nitro-, ethyl ester (Over-MYER), A., 459.

3:4:5-Trimethoxybenzoylpropionic acid, α-2-nitro-, ethyl ester (Overmyer), A., 459.

2:4:6-Trimethoxybenzoylpyruvic acid, ethyl ester (Pratt, Robertson, and Robinson), A., 1084. 2:4:6-Trimethoxybenzyl alcohol (FREUDENBERG and HARDER), A.,

7:3':4'-Trimethoxy-3-benzyl-2:3-dihydro-y-benzopyrone, oxime of (Preiffer and Oberlin), A., 1198. salts.

3:3':4'-Trimethoxy-6:8-dimethylflavylium 5-liydroxy-(Robertson and Robinson), A., 1084.

3:4:3'-Trimethoxydiphenylmethane-2-carboxylic acid, 5'-bromo-2'hydroxy-, and 2'-hydroxy- (Puntambeker and Adams), A., 362.

6:7:8-Trimethoxy-2-ethoxyquinoline oxide, 4-hydroxy- (Over-MYER), A., 459. 6:7:4'-Trimethoxyflavone (BARGELLINI and GRIPPA), A., 1197.

3:2':4-Trimethoxyflavylium chloride, 7-hydroxy- (Pratt, Robertson, and Robinson), A., 1084.

6:7:8-Trimethoxy-2-methylquinoline, 4-hydroxy- (Overmyer), A., 459.

6:7:8-Trimethoxy-2-methylquinoline-3-carboxylic acid, 4-hydroxy-, and its ethyl ester (OVERMYER), A., 459.

2:4:6-Trimethoxyphenylacetic acid, and its acid chloride (FREUDEN-

BERG and HARDER), A., 251.

7(?5):3':5'-Trimethoxy-2-phenylbenzopyrylium chloride, 5(?7):4'-dihydroxy-, 3-diglucoside of (Karrer and Widmer), A., 1198. Trimethoxy-2-phenylbenzopyrylium chlorides, hydroxy- (KARRER), A., 1197.

Trimethoxy-3-phenylcoumarin (Bargellini and Monti), A., 883. 4-(3':4':5'-Trimethoxyphenyl)coumarins, dihydroxy-, and their diacetyl derivatives (Bargellini and Grippa), A., 465.

aay-Trimethoxypropiane (VOET), A., 1172. 3:4:5-Trimethoxypropiophenoue, 2-nitro- (OVERMYER), A., 459.

Trimethylacethydrazide (WIELAND, HINTERMAIER, DENNSTEDT, and Lorenzo), A., 237. Trimethylacetylazotriphenylmethane (Wieland, Hintermaier,

DENNSTEDT, and LORENZO), A., 237. Trimethylacetylhydrazotriphenylmethane (WIELAND,

MAIER, DENNSTEDT, and LORENZO), A., 237. 3:3:5-Trimethyl-1-allyl-2-pyrrolidone (RAMART and FASAL), A.,

Trimethylamine, partition coefficients of, between benzene and

salt solutions (Herz and Stanner), A., 1021. Trimethylamine, aa'a''-triamino-, derivatives of (Kipping and Mann), A., 343.

s-diiodo-, preparation of (GROUCHKINE), (P.), B., 572.

Trimethylamine oxide as hydrogen acceptor (Ackermann, Poller, and Linnewell), A., 171, 989.

Trimethylaminoethane, a-amino- β -chloro-, and $a\beta$ -dichloro-, and their salts (Frankel and Nussbaum), A., 546.

2:4:6-Trimethylaminopyrimidine, and its salts (Winkelmann), A., Trimethylanhydrobrasilin, synthesis of (Pfeiffer and Oberlin),

A., 1198. Trimethylanhydroglucoses (MICHEEL and HESS), A., 1056. 2:3:5-Trimethyl-y-arabinose (HAWORTH, HIRST, and LEARNER), A., 1173.

βγδ-Trimethyl-l-arabonolactone (DREW and HAWORTH), A., 544. d- and l-Trimethyl-γ-arabonolactones, oxidation of (HAWORTH, HIRST, and LEARNER), A., 1173.

Trimethylarsine dichloride and its additive compounds (Valeur

and Gailliot), A., 756, 1176.

Trimethylbenzylammonium picrate (Goss, Hanhart, and In-GOLD), A., 236.

Trimethylisobutoxymethylammonium hydroxide, and its salts (STEWART and ASTON), A., 862.

Trimethylisobutylammonium picrate (HANHART and INGOLD), A.,

Trimethylcellulose, constitution of (MICHEEL and HESS), A., 1056. crystalline (HESS and PICHLMAYR), A., 44.

3:6:8-Trimethylchromanone (v. Auwers, Baum, and Lorenz), A., 670.

1:1:6-Trimethylcoumaranone, and its semicarbazone (v. Auwers, BAUM, and LORENZ), A., 670.

2:4:6-Trimethylcoumaranone, 2-bromo- and 2-thiocyano- (v. AUWERS and LORENZ), A., 61.

Trimethylcyanuric acid, esters, symmetry in formation of (Slotta and Tschesche), A., 346.

1:4:6-Trimethyl-1:2-dihydronaphthalene, and its derivatives

(RUPE and SCHÜTZ), A., 58. 4:7:9-Trimethyl-4:5-dihydroisourie acid (Buaz and Bülow), A.,

1091. Trimethylene sulphide, dimethiodide of, constitution of, and its

salts (BENNETT and Hock), A., 1166. sulphite (Majima and Simanuki), A., 337.

Trimethylenediamine, di-m-nitrobenzoyl derivative of (WREDE, Fanselow, and Strack), A., 264.

3:3'-Trimethylenedi-β-naphthaspiropyran (Dickinson and Heil-BRON), A., 884.

4:5-Trimethylenetetrophan (v. BRAUN and REUTTER), A., 258.

Trimethylethylene. See β -Methyl- $\Delta\beta$ -butene. Trimethylfructose, structure of (Leitch), A., 450.

Trimethylglucose, and its methylglucoside, from methylation of paconin (KARRER), A., 1197.

γεζ-Trimethylglucosides, isomeric (Levene and Meyer), A., 1174.

1:3:4-Trimethylglyoxalone (Biltz and Bülow), A., 1091.

1:3:4-Trimethylglyoxalone-5-carboxylic acid, and its silver salt and methyl ester (Biltz and Bülow), A., 1091.

2:2:3-Trimethylcyclohexan-4-ol-1-carboxylic acid, derivatives of (Bredt-Savelsberg, Zaunbrecher, and Krieke), A., 1068.

a-Trimethylcyclohexanone (Cornubert), A., 878.

2:2:3-Trimethylcyclohexan-4-one-1-earboxylic acid, and its derivatives (Bredt-Savelsberg, Zaunbrecher, and Krieke), A., 1068.

d-2:2:3-Trimethylcyclohexan-4-one-1-carboxylic acid, and 5:5-dibromo-, methyl ester (Bhagvat and Simonsen), A., 250.

2:2:3-Trimethyl-43-cyclohexen-5-one-1-carboxylic acid, 4-hydroxy-, and its derivatives (BHAGVAT and SIMONSEN), A., 250.

Trimethylhexosediphosphoric acid, tetramethyl ester (Schlu-BACH and RAUCHENBERGER), A., 644.

γ-Trimethyl-β-hydroxybutyrobetaines, and their salts (Τομιτλ and SENDJU), A., 1058.

1:2:2-Trimethyl-1-(a-hydroxyisopropyl)cyclopentane, 3-cyano-, and its phenylurethane (Salmon-Legagneur), A., 1(81.

2:2:3-Trimethyl - 3 - a - hydroxyisopropylcyclopentane - 1 - carboxylnitrile. See isoPropyl-1:2:2-trimethylcyclopentane, 3-cyano-1-a-hydroxy-

3:3:5-Trimethyl-2-ketopyrrolidinoacetic acid, ethyl ester (RAMART and FASAL), A., 672.

isoTrimethylmelamine (TRAUBE, KEGEL, and SCHULZ), A., 46. 2:3:4-Trimethyl-β-methylglucoside, preparation of (HAWORTH, HIRST, MILLER, and LEARNER), A., 1173.

4:4:5-Trimethylcyclopentane-1:3-dicarboxylic acid, and 1-hydroxy-, and its potassium salt and acetyl derivative (BHAGVAT and

Simonsen), A., 250.

βγδ-Trimethylpentan-γ-ol (STAS), A., 46.

A., 651.

Trimethylcyclopentanone, and its derivatives (PRINGSHEIM and Schreiber), B., 720.

4:4:5-Trimethyl-45-cyclopentene-1:3-dicarboxylic acids, and their sodium salts and dianilides (Bhagvat and Simonsen), A., 250. 2:4:5-Trimethylphenyl β -phenylethyl ketone (Tasaki), A., 1078. 2:2:6-Trimethylpiperidyldithiocarbamic acids (ORTHNER), A., 975. Trimethyl-n-propylamine, and its picrate (HANHART and INGOLD), Trimethylpyrazoles, chloro-, and their salts (v. Auwers and Bahr), A., 677.

1:2:3-Trimethylpyrazolium salts, 5-chloro-, and 4-nitro- (v. Auwers and BAHR), A., 677.

1:3:4-Trimethylpyrazol-5-one, and its picrate (v. Auwers and BAHR), A., 677.

Trimethylstannyltriphenylgermane (KRAUS and FOSTER), A.,

1:4:7-Trimethyl-1:2:3:4-tetrahydro-a-naphthol (Rupe and Schütz), A., 58.

Trinorcholyldimethylearbinol (Wieland, Schlichting, and Jacobi), A., 248.

Tripoptide derivatives, formation of glyoxaline derivatives from (Gränacher and Mahler), A., 467.

Tripetroselidin (STEGER and VAN LOON), A., 1168.

Triphenyl. See p-Diphenylbenzene.

Triphenylacetamidine, and its picrate (BRUNNER, MATZLER, and Mössmer), A., 867.

Triphenylacethydrazide (Wieland, Hintermaier, Dennstedt, and Lorenzo), A., 237.

Triphenylacetic acid, fate of, in the body (MIRIAM, WOLF, and SHERWIN), A., 375.

Triphenylacetylazotriphenylmethane (WIELAND, HINTERMAIER, DENNSTEDT, and LORENZO), A., 237.

Triphenylacetylglycine (MIRIAM, WOLF, and SHERWIN), A., 375.

Triphenylacetylhydrazotriphenylmethane (Wieland, Hinter-maier, Dennstedt, and Lorenzo), A., 237.

Triphenylamines, catalytic reduction of (HIERS and ADAMS), A., 552.

substituted, relation between blue additive and oxidation compounds of (MADELUNG, REISS, and HERR), A., 657.

Triphenylanisylgermane (ORNDORFF, TABERN, and DENNIS), A., 1211.

Triphenylarsine sulphide mercurichloride (Matsumiya and NAKAI), A., 164.

1:2:3-Triphenyl-7:8-benzoquinoxalinium salts and acetyl derivative, 6-amino- (KEHRMANN and PERROT), A., 261.

Triphenylbismuthine dibenzoate and dicyanate (Challenger and Wilson), A., 267.

αγδ-Triphenylbutane-γδ-diol (Οκέκηον and Τιγγενελυ), A., 1076. aaδ-Triphenylbutan-β-ol (ORÉRHOV and TIFFENEAU), A., 1076. Triphenylcarbinol, absorption spectrum of (ORNDORFF, GIBBS,

McNulty, and Shapiro), A., 764. fate of, in the body (MIRIAM, WOLF, and SHERWIN), A., 375.

Triphenylcarbinol, 4-nitro-2-nitroso-, and 2-nitroso-4': 4"-diamino- (Tanasescu), A., 140.

Triphenylcarbinols, methoxy-substituted, and their salts (LUND). A., 661.

9:9:10-Triphenyl-9:10-dihydroanthracene, 10-chloro- (BARNETT, Cook, and Nixon), A., 349.

Triphenyldimethylanilinogermane, and its hydrochloride (ORNdorff, Tabern, and Dennis), A., 1211.

aββ-Triphenylethane, aaβ-trichloro- (Meisenheimer), A., 957. $aa\beta$ -Triphenylethyl alcohol, β -amino-, benzoylglycyl derivative (BETTZIECHE, MENGER, and WOLF), A., 45.

and β -chloroamino-, derivatives of (Bettzieche and Menger). A., 241.

 $\beta\beta\beta$ -Triphenylethylamine, and its salts and derivatives (Heller-MAN), A., 875.

Triphenylethylgermane (ORNDORFF, TABERN, and DENNIS), A., 1211.

o-βββ-Triphenylethylphenol (Schorigin), A., 54. Triphenylgermane (KRAUS and FOSTER), A., 268.

Triphenylgermanium salts (KRAUS and FOSTER), A., 268. chloride (ORNDORFF, TABERN, and DENNIS), A., 1211.

Triphenylgermanol (KRAUS and FOSTER), A., 268.

Triphenylgermanylamine (KRAUS and FOSTER), A., 268.

Triphenylmethane, absorption spectrum of (Orndorff, Gibes, McNulty, and Shapeo), A., 764.
fate of, in the body (Miriam, Wolf, and Sherwin), A., 375.

derivatives, halochromy of (Blumberger), A., 55. with linked benzene nuclei (WEISS, SPITZER, and MELZER), A.,

56; (Weiss and Knapp), A., 258. Triphenylmethane, 2:4-dinitro-, 2-nitro-4':4"-diamino-, and 2:4-

dinitro-4':4"-diamino- (TANASESCU), A., 139. Triphenylmethane dyes, constitution of (KEHRMANN, GOLDSTEIN, and v. Salis), A., 355.

physiological action of (COPLANS and GREEN), A., 172. Triphenylmethane series, coloured salts of (MADELUNG), A., 54:

(MADELUNG and VÖLKER), A., 146.

Triphenylmethane-o-carboxylic acid, esters of (BARNETT, COOK, and Nixon), A., 349.

Triphenylmethanepentacarboxylic acids, and their pentamethyl

esters (Weiss, Spitzer, and Melzer), A., 57.

Triphenylmethyl β -methoxycthyl ether (Nierenstein), A., 1059. chloride, absorption spectrum of (ORNDORFF, GIBBS, MCNULTY, and Shapiro), A., 764.

Triphenylmethyl groups, migration of, in phenols (VAN ALPHEN),

A., 660.

9-Triphenylmethylanthrone, 9-hydroxy- (Incold and Marshall), A., 141.. Triphenylmcthylazoformamide (WIELAND, HINTERMAIER, DENN-

STEDT, and LORENZO), A., 237. Triphenylmethylhydrazoformanilide (Wieland, Hintermaier,

DENNSTEDT, and LORENZO), A., 237. 2-Triphenylmethyl-a-naphthaquinone, 3-hydroxy-, and its sodium

salt (Fieser), A., 155. aaβ-Triphenyl-β-methyl-Δo-propene, γ-mono- and γγ-di-a-bromo-

(Meisenheimer), A., 957.

Triphenylmethylsemicarbazide (Wieland, Hintermaier, Denn-STEDT, and LORENZO), A., 237.

aaa-Triphenyl-n-pentane (MARVEL, HAGER, and COFFMAN), A.,

αδε-Triphenylpentane-δε-diol (ORÉKHOV and TIFFENEAU), A., 1076. Triphenyl-o-phenylene orthophosphate (Anschütz and Brieker), A., 664.

aaβ-Triphenylpropaldehyde, oxime of (LEVY and LAGRAVE), A.,

aby-Triphenylpropane (Fuson), A., 46.

Triphenylpropargyl alcohol, and its esters (Moureu, Dufraisse, and Houghton), A., 355.

βββ-Triphenylpropionhydroxamic acid, and its benzoyl derivative (HELLERMAN), A., 875.

βββ-Triphenylpropionic acid, derivatives of (Hellerman), A.,

Triphenylstibine dibenzoate and dicyanate (Challenger and Wilson), A., 267.

Triphenyl-p-tolylgermane (ORNDORFF, TABERN, and DENNIS), A.,

Triphthalimidotrimethylamine (KIPPING and MANN), A., 343. Triphthalylhydrazidotriaminotrimethylamine (KIPPING and MANN), A., 343.

Tripyrogallolarsenates (Rosenheim and Thon), A., 1156.

Trisaccharides (Helferich and Schäfer), A., 136.

Trisalicylatouranic acid, salts of (Weinland and Hager), A., 358. Trisazobenzenc (Bigiavi and Franceschi), A., 759.

Trisazo-dyes (OESCH and NEWPORT Co.), (P.), B., 246.

2:4:6-Trisuccinimidophenol (Covello and Gabrieli), A., 1181.

Triticonucleic acid, nucleotides of (CALVERY and REMSEN), A., Tri-p-tolylaminium salts (Weitz and Schwechten), A., 49.

Tri-p-tolylarsine sulphide mercurichloride (MATSUMIYA NAKAI), A., 164.

Tri(trimethylstannyl)amine (Bullard and Robinson), A., 685. Trivinylarsine, $\beta\beta'\beta''$ -tribromo- (SCHMIDT), A., 233.

Tropic acid, scopinium salt (Polonovski and Polonovski), A.,

Tropic acids, chloro- (Kerr), A., 969.

Tropinone oxide, and its salts (Polonovski and Polonovski), A., 1208.

Trout, hydrolysis of esters by preparations of (FALK, Noves, and LORBERBLATT), A., 901.

Trouton's rule (HERZ), A., 101.

Truxane, constitution of (STOBBE and ZSCHOCH), A., 347.

Truxene, constitution of (STOBBE and ZSCHOCH), A., 347.

Truxenequinone, and its relationship with diketohydrindene (IONESCU), A., 669.

a-Truxillic acid, formation of truxencquinone from (STOBBE and Zsсносн), А., 347.

Truxone, constitution of (STOBBE and ZSCHOCH), A., 347.

Truxones (DE FAZI), A., 1077.

Trypan-blue, surface activity of, at limiting surfaces (OKUNEV),

Trypanosomiasis, action of phenylarsinic acids on (FOURNEAU, Tréfouel, and De Lestrange-Trévise), A., 73.

Trypsin (Necheles and Fernando; Willstätter, Waldsommidt-Leitz, Duñaiturria, and Künstner), A., 174; (Kolodziejska and Funk), A., 699.

preparation of, free from enterokinase (WALDSCHMIDT-LEITZ and Linderström-Land), A., 698.

Trypsin, effect of its purity on hydrolysis by (MERRILL), A., 76. action of, on calfskin (MERRILL and FLEMING), B., 342.

and enterokinase (WALDSCHMIDT-LEITZ and LINDERSTRÖM-Lang), A., 698.

determination of (Rona and Kleinmann; Smorodinoev and Adova), A., 76.

separation of antiglyoxalase and (Kunn and Heokscher), A., 74.

separation of enterokinase and (BECHHOLD and KEINER), A., 1221.

Tryptophan in diet (HICKS), A., 276. replacement of (JACKSON), A., 791.

in proteins, effect of irradiation on (Lieben), A., 1099.

determination of, colorimetrically (TILLMANS and ALT), A., 166. determination of, in proteins (FOLIN and CIOCALTEU), A., 892. Tuberculin, active principle of (LONG and SEIBERT), A., 485.

Tuberculosis, calcium in plasma in (GRIESHEIMER and VAN Winkle), A., 588.

composition of diazo-urine in (Komori), A., 170.

injection for, from garlie (KUBOTA), (P.), B., 268. protective and curative material for (LANGER and I. G. FARBEN-IND.), (P.), B., 268.

inhibitive substance in scrum in (Perla), A., 588.

skin-reacting substance in serum in (Eberson), A., 588. in men and animals, remedy for (GRONSTEDT), (P.), B., 60.

Tufa from Fiuggi (Porlezza and Donati), A., 129.

Tula alloy (Schwarz and Romero), A., 628.

Tumours, malignant, cytochrome, glutathione, and lactic acid in (Bierich, Rosenbohm, and Kalle), A., 693.

glutathione content (YAOI and NAKAHARA), A., 274. Tumour tissues, glycolytic power of cell-free extracts from (Alders, Chiari, and Laszlo), A., 274.

Tung oil (China wood oil) (FONROBERT and PALLAUF), B., 169.

from Aleurites Fordii in Australia (Penfold), B., 451. chemistry of (Rhodes and Welz), B., 146.

increase of molecular weight in boiling of (Long and Wentz), B., \$2.

opaque drying of (MERZ), B., 303. determination of constitution of fatty acids of (MANECKE and Volbert), B., 821.

elæostearic acid from (Böeseken, Smit, Hoogland, and van DEN BROEK), A., 1169.

non-gelatinising product from (HALL), (P.), B., 304. detection and determination of (Goldsmith), B., 118.

Tungsten, micro-structure of (SMITHELLS and ROOKSBY), A., 816. lattice structure and density of (DAVEY and WILSON), A., 1128. effect of working on physical properties of (AVERY and SMITHELLS), B., 113.

Zeeman effect in arc spectrum of (Beining), A., 491.

under-water spark spectrum of (Allin and Ireton), A., 801. emission of light by (Worthing), A., 100.

clean, thermionic and photo-electric work functions for (WARNER), A., 391.

Matthiessen rule for (GEISS and VAN LIEMPT), A., 401. rate of evaporation and vapour pressure of (Jones, Langmuin,

and MacKay), A., 927. production of single crystals of (Ver. Glühlampen & Elektricitäts-A,-G.), (P.), B., 195.

hollowing of, by central fusion (Wood), B., 113.

absorption of gases on surfaces of (Schirmann), A., 13.

reduction of ores and oxides of (Sohroeder and Metal & THERMIT CORP.), (P.), B., 169.

reduction of refractory oxides by (v. WARTENBERG and MOEHL), A., 1043.

layers of active nitrogen on (Kenty and Turner), A., 913. incandescent, reactions of, with nitrogen and with water vapour (Smithells and Rooksby), A., 951.

thoriated, emission of electrons from (DUSHMAN and EWALD),

Tungsten alloys with cobalt (GEISS and VAN LIEMPT), A., 418. with molybdenum, limits of resistance of (VAN LIEMPT), A., 196. Tungsten compounds, action of hydrogen chloride on (Spitzin and Kaschtanov), A., 33.

Tungsten carbide, production of, in lumps (LOHMANN), (P.), B., 108*.

properties of (Becker and Hölbling), B., 439. casting of (Brennicke), (P.), B., 659. for tools (Lohmann), (P.), B., 303.

hexachloride, action of, on magnesium phenyl iodido (Brydowna), A., 138.

Tungsten halides, space configuration of (LINDNER), A., 611. trioxide, manufacture of (SCHWARZKOPF), (P.), B., 528. gaseous reduction of (ENGLE), B., 680.

oxides and salts, preparation of (JENCKES), B., 439. silicide, crystal structure of (Zachariasen), A., 924.

Tungstic acid, synthesis of (DUMANSKI and BUNTIN), A., 108. electrometric study of (BRITTON), A., 223.

precipitation of, by tannin (SCHOELLER and JAHN), A., 1047. Tungstates, diffusion coefficient and optical absorption in solu-

tions of (SCHULZ and JANDER), A., 619. alkali bronzes from (Spitzin), A., 327.

Metatungstates, soluble (SMITH), A., 950.

Tungsten organic compounds:-

Tungstic acid, double salt of cocaine and (PAGE), A., 265.

Tungsten detection, determination, and separation :detection of, colorimetrically (Ergriwe), A., 437. detection of, by the arc spectrum (DONATI), A., 333.

determination of (Moser and Schmidt), A., 37.

determination of, by means of lead amalgam (Someya), A., 848. determination of, volumetrically (Someya), A., 746.

determination of, in ferrotungsten (Koch), B., 143.

determination of, in ferrotungsten and tungsten steel (Moser and SCHMIDT), B., 656.

separation of, from alloys (Wenger and Rocovine), A., 333. separation of, from chromium, molybdenum, and vanadium (CREMER and FETKENHEUER), B., 704.

separation of, from tantalum and niobium (Schoeller and Јани), А., 1047.

separation of, from vanadium (Clarke), B., 752

Tungsten filaments, manufacture of (Gers and Westinghouse Lamp Co.), (P.), B., 16.

and their activation (FOULKE and GEN. ELECTRIC Co.; MARDEN, THOMAS, CONLEY, and WESTINGHOUSE LAMP Co.), (P.), B., 529.

"non-sag" (McAllister and Westinghouse Lamp Co.), (P.), B., 81.

Tungsten ores, decomposition of (HAHN and FRANKE), (P.), B., 491. Tungsten powders, manufacture of (GERS and WESTINGHOUSE LAMP Co.), (P.), B., 16.

compressed, grain growth in (SMITHELLS, PITKIN, and AVERY), B., 969.

Tungsten wire, transformation of crystalline structure of (Koref and GEN. ELECTRIC Co.), (P.), B., 491. grain size and tempering in (BECKER), A., 503.

internal stress in (v. Göler and Sachs), A., 1130.

Tungstovanadoarsenic acid (CANNERI), A., 220.

Tungstovanadophosphoric acid, and its salts (CANNERI), A., 33, 220. Tunnel linings, concrete blocks for (Johannesson), (P.), B., 545.

Turanose, constitution of (ZEMPLÉN), A., 44. enzymic hydrolysis of (Bridel and Aagaard), A., 1116.

Turbidimeter (Renwick), B., 349. Turkey. See Meleagris gallopavo.

Turmeric oil (RUTOVSKI and LEONOV), B., 172.

Turnips, and their juice, effect of, on blood of rabbits (HORVATH), A., 792.

Turpentine, specification for (U.S. Bureau of Standards), B., 50, 586.

distillation of (Bobrov), B., 392.

electropyrogenic decomposition of (Müller and Banninger), A., 1177.

solid pinene hydrochloride from (Höhn), (Р.), В., 378. substitutes for (ODOM and M-O-R PRODUCTS Co.), (P.), B., 531; (RAMAGE), (P.), B., 661.

Turpentine oil, examination of, for use in chemical industry (Austerweil), B., 419.

oxidising and auto-oxidising power of (Testoni), B., 956. Indian, pinene content of (MULANY and WATSON), B., 505.

Turtle, distribution of nitrogen in blood and urine of (WILEY and Lewis), A., 1103.

Tussilago farfara, sterol from (SCHMID), A., 969.

Type metal, hardening of (TRAVERS and HOUOT), B., 846. Tyres, old, regeneration of rubber from (DANIER), (P.), B., 635.

Tyre cords (STAVELY and SHEPARD), B., 276. Tyrin, nature and reactions of (v. SZENT-GYÖRGYI; PLATT and

Wormall), A., 384. Tyrosinase, determination of, iodometrically (HAEHN and STERN), A., 699.

Tyrosine (p-hydroxyphenyl-a-aminopropionic acid), dissociation constant of (STENSTRÖM and GOLDSMITH), A., 204. action of tyrosinase on (RAPER), A., 278, 1112.

Tyrosine in proteins, effect of irradiation on (Lieben), A., 1099. cleavage of, in yeast fermentation (EHRLICH), A., 700. determination of, by Millon's reaction (ZUVERKALOV), A., 688. determination of, in presence of I-a-amino-\beta-3:4-dihydroxyphenylpropionic acid (SCHMALFUSS and LINDEMANN), A., 683.

determination of, in proteins (Folix and Ciocalteu), A. 892.

Ucuhuba fat, preparation of myristic acid from (VERKADE and Coors), A., 854.

Ultra-filter (AITKEN and KAY), A., 955.

Ultra-filtration, early experiments on (HATSCHER), A., 1049. Ultramarines, artificial, constitution of (JAEGER and VAN MELLE). B., 915.

X-ray structure of (JAEGER, WESTENBRINK, and VAN MELLE), A., 715.

Umbelliferæ, proteins of (Davies), B., 232.

Undecane, ak-dibromo- (Churt, Boelsing, Hausser, and Malet),

β-bromo-λ-cyano- (Chuit, Boelsing, and Malet), A., 446. ββ-chloronitro- and ββ-chloronitroso- (RHEINBOLDT and Dewald), A., 852.

Undecane-an-dicarboxylic acid, and its esters (Churt, Boelsing, and MALET), A., 446.

Undecane-ak-diol, and its diphenylurethane (Churt, Boelsing, Hausser, and Malet), A., 40.

Undecan-a-ol, k-bromo- (CHUIT, BOELSING, HAUSSER, and MALET). A., 40.

Undecenoic acid, and its homologues (CHUIT, BOELSING, HAUSSER, and Malet), A., 40, 445.

n- and iso-Undecenols, and their salts and derivatives (Chuir, BOELSING, HAUSSER, and MALET), A., 40.

A*-Undecencyl bromide and nitrile (Tomecko and Adams),

As-Undecenoylmalonic acid, and its ethyl ester (Tomecko and Adams), A., 339.

Undecenylmalonic acid, ethyl ester (Chuit, Boelsing, Hausser, and MALET), A., 445.

Undecoic acid, a-bromo-, derivatives of, and a-hydroxy-, and its methyl ester (Chuit, Boelsing, Hausser, and Malet), A., 40. к-bromo-, esters of (CHUIT, BOELSING, and MALET), A., 447. κ-cyano-, acid chloride of (PERKINS and CRUZ), A., 541.

Unsaturated compounds, optical properties of (Petrenko. Kritschenko), A., 713.

reactions of nitroso-derivatives with (Alessandri), A., 572. action of peracetic and perbenzoic acids (Böeseken), A., 39. homocyclic, chemistry of polycyclic compounds in relation to isomeric (Ingold and Seeley), A., 877.

isomeric, determination of mixtures of (Linstead), A., 445; (LINSTEAD and MAY), A., 1167.

Uracil, 5-amino-, oxidation of (BAUDISCH and DAVIDSON), A., 365. 6-chloro-5-hydroxy- (BILTZ, PAETZOLD, and NACHTWEY). A., 259.

Uræmia, distribution of electrolytes in dogs in (ATCHLEY and Benedict), A., 692.

Uranatomalic acid, salts, structure of (Andrews), A., 543.

Uraninite (pitchblende), Joachimsthal, emanation of radon from residues of (MARKEL), A., 182. radioactivity in mines of (BĚHOUNEK), A., 605.

Uranium, absorption spectrum of vapour of (McLennan, Cohen,

and Liggett), A., 396. ultra-violet are spectrum of (NAGAOKA and FUTAGAMI), A., 286.

solubility of, in mercury (TAMMANN and HINNÜBER), A., 304. Uranium compounds, colloidal (Dijatschkovski), A., 1137.

Uranium oxides (BILTZ and MÜLLER), A., 831.

Uranyl nitrate, absorption spectra of, in various solvents (v. Kurelec), A., 306.

sulphate, equilibrium of alkali sulphates, water, and (COLANI). A., 830.

Uranium organic compounds:-

Uranyl compounds with acetyl- and benzoyl-acetones (HAGER), A., 668.

nitrate, double salts of cocaine and (PACE), A., 265. Uranium determination and separation:

determination of, spectroscopically (PORLEZZA and DONATI),

separation of, from titanium (ANGELETTI), A., 333.

488 Uranium ions, tervalent, colour of (Someya), A., 432. Uranium minerals of Katanga (HACQUAERT), A., 225. Uranophane, isomorphism of sklodowskite and (Schoep), A., 611. Urea (carbamide), adsorption of urease by charcoal and (PRZY-LECKI, NIEDZVIEDZKA, and MAJEVSKI), A., 1113. determination of (GLASSMANN), A., 169. determination of, in blood (Kahane), A., 271; (Chabanier, Lebert, and Wahl), A., 476. determination of, in urine (LAUBENDER), A., 896. determination of, volumetrically, in urine (Glassmann and Skundina), A., 70. See also Carbamide. Urease (v. Euler and Brunius), A., 591. from amoebocytes of Limitus (Loeb and Bodansky), A., 481. adsorption of, by charcoal (PRZYLECKI, NIEDZVIEDZKA, and Majevski), A., 1113. effect of small amounts of substances on activity of (JACOBY), A., 378. effect of amino-acids on activity of (Husa), A., 175. Ureides. See Carbamides. Urethane, N-chloro-, and its salts (TRAUBE), (P.), B., 348. ψ -Urethanes (SEN and BARAT), A., 578 3-Urethanobenzazimide (Heller and Siller), A., 677. 3-Urethano-2-methyl-4-quinazolone (Heller and Siller), A., 677.3-Urethanotetrahydroquinazoline-2:4-dione (Heller and Siller), A., 677. Uric acid, solubility of, in carbonates (S. and H. Lang), A., 730. influence of hydrogen-ion concentration on solubility of (Jung), reduction of eupric oxide by (LANYI), A., 320. effect of amines on oxidation of (Chrometzka), A., 278. destruction of, by ammonia (Schittenhelm and Chrometzka), effect of muscular exercise on exerction of (Garry), A., 375. in blood, influence of diet on (HARDING, ALLIN, and EAGLES), A., 1108. in blood and lymph following its intravenous injection (Christ-MAN and ECKSTEIN), A., 1218. metabolism of. See under Metabolism. sodium salt, aqueous solutions of (ETTISCH, LOEB, and LANGE), A., 724. as a colloidal electrolyte (FREUNDLICH and LOEB), A., 308. determination of, as ammonium urate (Boivin), A., 488. Uricase (Calvery), A., 699. Uridine, action of hydrazine hydrate on, and its xanthyl derivative (Levene and Bass), A., 261. Urine, constituents of (Talbert and Haugen; Talbert, Silvers, and Johnson), A., 788. colloidal chemistry of (v. HAIIN), A., 70. acidity of (Tellera), A., 987; (Morgulis and Hamsa), A., 1105.influence of muscular work on (GROAG and SCHWARZ), A., 373.albumin in (Hewitt), A., 1106. action of ammonium benzoate on (Johnston), A., 1218. carbohydrate content of (GLASSMANN), A., 273. effect of diet on the C: N ratio in (BICKEL and REMESOV), influence of alkali salts on the C: N ratio in (Taslakowa; WATANABE and TASLAKOWA), A., 72. isotopes of chlorine in (Ambard and Chrétien), A., 169. diagnostic value of diastatic index of (KREYBERG), A., 1106. occurrence of guanidine in, during tetany (Kuen), A., 988. synthesis of hippuric acid in (Koch; Widmark), A., 375. excretion of phosphorus in, in relation to consumption of carbohydrates (Piazza), A., 374. proteases of (Peczenik), A., 1105. sugars in (Eagle), A., 273. total sugar in (EVERETT, SHOEMAKER, and SHEPPARD), A., 1102. effect of administration of sulphur on sulphur compounds in (DENIS and REED), A., 695. urea in (Talbert, Finkle, and Katsuki), A., 1105. effect of muscular exercise on deposits in (CARPENTIER and Brigaudet), A., 790. substance in, in diabetes insipidus (Illievitz), A., 373. camels', urea content of (Petri), A., 692. diazo- (Komori), A., 170.

hens', nitrogenous constituents of (DAVIS), A., 1105.

Urine of man, excretion of zinc in (DRINKER, FEHNEL, and MARSH), steers', effect of fasting on (Carpenter), A., 1108. Urine, analytical methods relating to:analysis of (Otto), A., 987. acetone reaction for (Loetze), Λ ., 71. urea concentration test for (Jones and Cantarow), A., 71. detection of acetone and acetoacetic acid in (Lorber), A., 373. detection of sugars in, bacteriologically (Benjasch), A., 372. detection and identification of reducing sugars in (Pietra), A., 987.detection and determination of iodine in (ESCHENBRENNER), A., 895. determination of acetone in (KLEYER), A., 1105. determination of ammonia in (Weber and Krane), A., 478. determination of bismuth in (Baggesgaard-Rasmussen, JACKEROTT, and Schou), A., 788. determination of bromine in presence of chlorine in (Otten-SOOSER), A., 586. determination of calcium in (Sharpe), A., 1102. determination of guanidines in, by the picrate method (WHITE), A., 273. determination of iodine in, colorimetrically (Yoshimatsu and Sakurada), A., 586. oxalic acid in (Holmberg), A., 478; determination of (Khouri), A., 689; (zu Hörste), A., 896. determination of phosphoric acid in (LE GUYON), A., 372. determination of proteins in (Wu and Ling), A., 689. determination of quinine in (SMORODINCEV), A., 1105. determination of sugar in (KINGSBURY), A., 1172. determination of sulphur compounds in (DENIS and REED), determination of urea in (LAUBENDER), A., 896. determination of urea in, volumetrically (Glassmann and SKUNDINA), A., 70. determination of urobilin in (GREPPI), A., 70. Urobilin, determination of, in urine and facces (GREPPI), A., 70. Uroporphyrin, effect of light on (SQUIRES), A., 478. iso Uroporphyrin, synthesis of, and its octamethyl ester and its salts (Fischer and Heisel), A., 1088. Urotropine. See Hexamethylenetetramine. Uroxameter (Moss and KNAPP), A., 322. Urunday extracts, fluorescein and fluorescence reactions of (Gerngross and Hübner), B., 853. Urushiol, synthesis of homologue of (KAWAI), A., 1183. Uterus, ester-hydrolysing enzymes in muscle and fibroids of (Noves and Falk), A., 483. ٧. Vaccines, centrifugal machines for (NUTRIMENT, LTD., and TATTERSALL), (P.), B., 173. Vaccine virus, effect of hydrogen-ion concentration on longevity of (Defries and McKinnon), A., 485. Vacuum, high, production of (Schirmann), A., 13. gauge for measurement of (BURK), A., 438. Vacuum apparatus (KEN-CRIP CORP.), (P.), B., 160. Vacuum flask for conductivity determinations (REMESOV), A., 1159. Vacuum gauge, hot-wire (Skellett), A., 954. Vacuum tubes, manufacture of filaments for (McCullough), (P.), B., 116. Valency (NIVEN), A., 714. theories of (Burgarth), A., 94. in relation to additive compounds (Perrin), A., 1009. electron theory of (Lower), A., 1025, 1026; (Dupont), A., and molecular transformations (GILLET), A., 921. relation between crystal structure, electron grouping, and (HUME-ROTHERY), A., 398. relation between shared electrons and (Noxes), A., 1128. variability of (RAY), A., 1009. Valeraldehyde, α-bromo-, action of magnesium ethyl bromide on

(Kirrmann), A., 750.

Toxopeus), A., 133.

n- and iso-Valeraldehydes, a-bromo- (KIRRMANN), A., 340.

Valeranilide-a-sulphonic acids, and their salts (BACKER and

Valerian root, and its extracts, valuation of (OSTLING), B., 506.

INDEX OF SUBJECTS. Valeric acids, amino-β-hydroxy- (OSTERBERG), A., 343. Vanilla extracts, vacuum distillation of (GNADINGER), B., 346. n- and iso-Valeric acids, a-bromo-, a-hydroxy-, and a-thiol-, and Vanilla powders (Moroy), B., 712. their sodium salts (Levene, Mori, and Mikeska), A., 1171. Vanillin, preparation of (Fröschl and Bomberg), A., 1188; (Akt. Ges. für Anilin-Fabr.), (P.), B., 380. n-Valerolaetone (SCHUETTE and SAH), A., 133. d-γ-Valerolactoue (Levene, Haller, and Walti), A., 643. manufacture of (Bots), (P.), B., 924. Valerolactones, α-substituted, preparation of (DARZENS), A., 40. separation and purification of (TCHERNLAC), (P.), B., 428. isoValeronitrile, bromo-derivative (Goldschmidt, in urine distillates, brandies, and adulterated brandies (REIF), NAGEL, and MARTIN), A., 983. Valeryl chloride, δ-bromo- (MERCHANT, WICKERT, and MARVEL), colour reaction of, with alkaloids (VAN ITALLIE and STEEN-A., 853. HAUER), A., 983. isoValeryloxybenzoic acid, a-bromo-, and its amides (KAUFMANN), commercial, determination of, volumetrically (ZANOTTI), B., 236. n-Valeryl-p-phenetidine (Hill and Cox), A., 145. Vanillin, 5-bromo-, derivatives of (RAHORD and HILMAN), A., 768. Valonia, penetration of basic dyes into (TRWIN), A., 72. 2- and 6-mono- and 5:6-di-bromo-, and their derivatives (RAIFORD penetration of vacuoles of, by dye from methylene-blue solutions and Stoesser), A., 564. (IRWIN), A., 907. chloro-, and its derivatives (HANN and SPENCER), A., 361. influence of light on permeability of, for 2:6-dibromophenol-B-Vanillin-a-glucoheptoside, and its pentancetyl derivative indophenol (Brooks), A., 1109. (GLASER and ZUCKERMANN), A., 650. Valves, low-pressure (Peters and Klein), A., 954. Vanillin-5-sulphonic acid (FINGER and SCHOTT), A., 668. one-way safety, for vacuum pumps (Hein), A., 1049. Vanillylideneacetone, condensation of, with salicylaldehyde (GLASER and TRAMER), A., 972. thermionic (Edison Swan Electric Co., Soundy, and Price), (P.), B., 850. Vanillylideneaniline, 5-bromo-, and 5:6-dibromo- (Raiford and activation of filaments of (MARDEN, THOMAS, CONLEY, and Hilman), A., 768. WESTINGHOUSE LAMP Co.), (P.), B., 529. chloro-, and its salts (HANN and SPENCER), A., 361. Vanillylidenebenzidines, dibromo- (RAIFORD and STOESSER), vitreous containers for (EMERSON), (P.), B., 117. Vanadatomalonic acid, barium hydrogen salts (Schramm), A., A., 564. 542.Vanillylidenetolidine, 5-bromo- (RAIFORD and HILMAN), A., 768. Vanadium, manufacture of (MARDEN and RICH), B., 657. Vanillylidene-p-toluidine, 5-bromo- and 5:6-dibromo- (RAIFORD acid extraction of, from ores (STEVENS, NORRIS, and WATSON), and HILMAN), A., 768. (P.), B., 560. Vaporisation, determination of end-points in (Parsons, Steven-K-absorption spectra of compounds of (Hendricks and son, and Deppe), (P.), B., 768. Vapours, purification of, centrifugally (ALEXANDER), (P.), B., 65. generating systems for (Siemens-Schuckertwerke and WYCKOFF), A., 603. quinquevalent, paramagnetism of (Perrakis), A., 288. (SIEMENS-SCHUCKERTWERKE and ABENDROTII), (P.), B., 321. atomic moment of (PERRAKIS), A., 717. Vapour density, determination of (TRAUTZ and TRIEBEL), A., 615; adsorption of hydrogen by (Huber, Kirschfeld, and Sieverts), (BLACKMAN), A., 818. A., 105. by Victor Moyer's apparatus (TIAN), A., 128. recovery of (Thews and Colorado Vanadium Corp.), (P.), B., 389. Vapour pressure (BERLINER and MAY; BERLINER, MAY, and from solutions (STEVENS, NORRIS, and WATSON), (P.), B., LYNCH), A., 506. determination of (CARDOSO), A., 224; (TRAUTZ and TRIEBEL), 555. Vanadium alloys with carbon and iron for Brinell balls (Quick A., 615. calculation of invariants in (FISCHER), A., 615. and Jordan), B., 752. with iron (JORDAN, QUICK, and UNITED STATES), (P.), B., by air bubbling (Downes and Perman), A., 194. by the dynamic method (Pearce and Snow), A., 302. at high temperatures (RUFF and KONSCHAK), A., 102. Vanadium compounds, recovery of (Blumenberg and Stockequation and curves for (FISCHER; SCHUSTER), A., 103. of aqueous solutions (Whyttaw-Gray and Whitaker), A., 111; (Harrison and Perman), A., 207. HOLDERS SYNDICATE), (P.), B., 43. from iron ores containing vanadium and titanium (KJELL-BERG), (P.), B., 43. as driers (SWEHTEN), B., 259; (HEBLER), B., 635. of saturated salt solutions (Leopold and Johnston), A., 938. low, measurement of (v. Halban and Siedentoff), A., 747. tervalent (Meyer and Markowicz), A., 32. Varnishes, preparation of (I. G. FARBENIND.), (P.), B., 661. quadrivalent (Parisi), A., 122. Vanadium pentoxide sols, spontaneous structure formation in manufacture of (SCHWARTZ and GIL-CAMPORRO), (P.), B., 340*. manufacture of solutions for (I. G. FARBENIND. and CHEM. FABR. (Zocher and Jacobsonn; Jochims), A., 411. oxides, magnetisation of (Perrakis), A., 805. VORM. WEILER-TER MEER), (P.), B., 340. production of uniform films of (GARDNER and SWARD), B., 822. sulphates (Auger and Eighner), A., 843. sulphates and ammonium sulphates (MEYER and MARKOWICZ), application and treatment of (CLOVER and COOPER HEWITT ELECTRIC Co.), (P.), B., 916. solvent for use in (I. G. FARBENIND.), (P.), B., 956. A., 32. Vanadous ions, colour of (Someya), A., 432. Vanadyl chloride and sulphate, magnetic properties of (PERRArôle of solvents and diluents in (Scheifele), B., 916. determination of colour intensity of (Fonrobert), B., 147. KIS), A., 717. Vanadic acid (MEYER and PAWLETTA), A., 531. burning of fumes from (Goggin), (P.), B., 148. action of sulphur dioxide and water on (LAURIE), B., 196. Pervanadic acid (MEYER and PAWLETTA), A., 326. air-drying (Brown and Westinghouse Electric & Manuf. Vanadium organic compounds, with 8-hydroxyquinoline (HAHL, Co.), (P.), B., 884. KROPP, and WINTHROP CHEM. Co.), (P.), B., 92. Orthovanadic acid, double salt of cocaine and (PACE), A., 265. cellulose (LAVADOUX), (P.), B., 85. cellulose ester, analysis of (Dabisch), B., 418. Vanadium detection, determination, and separation :detection of, by the arc spectrum (PORLEZZA and DONATI), nitrocellulose (TAKEMURA and OIWA), (P.), B., 305. drying, manufacture of (Becker and Siemens & Halske), (P.), B., 822. A., 334. determination of, iodometrically (RAMSEY), A., 640. determination of, by means of lead amalgam (Someya), A., ester gum and synthetic resin, influence of driers on properties of (Sward and Gardner), B., 684.

determination of, volumetrically (Someya), A., 746. non-inflammable (Weber and Westinghouse Electric & MANUF. Co.), (P.), B., 788. determination of, in presence of iron (ZINTL and ZAIMIS), oil, production of (Petrov), (P.), B., 452. fluorescence analysis of (WOLFF and TOELDTE), B., 19. determination of, in iron minerals and rocks (Silbermintsch phenol resin (Rossi and Bakelite Corp.), (P.), B., 228. and Roshkova), B., 559. separation of, from chromium, tungsten, and molybdenum chlorinated-rubber (BOEHMER and CHADELOID CHEM. Co.), (P.), B., 661. (CREMER and FETKENHEUER), B., 704. water-resisting spar, specification for (U.S. BUREAU OF STANDARDS), B., 586. separation of, from tungsten (CLARKE), A., 1048; B., 752. Vanadylmalonic acid, and its salts (Schramm), A., 542.

490 Varnishes, tung oil, control of (BAUER), B., 84. Varnish films, investigation of (D'ANS, MERZBACHER, and WEISE), mechanical properties of (Wolff and Zeidler), B., 755. determination of elasticity and strength of (WOLFF and Zeidler), B., 563.
Varnish oil, "non-breaking" (Schwarcman and Spencer, Kellogg & Sons), (P.), B., 51. Varnish removers (PHILLIPS and Goss), B., 228. acetone-benzene, volatility of (Weiss), B., 418. Vasicine, and chloro- (GHOSE), A., 785. Vegetables, preservation of (NESBITT, BUTLER, and DRUMM), (P.), B., 314. dehydration of (MacPherran), (P.), B., 615. drying chambers for (Scott & Son and Riley), (P.), B., Vegetable materials, dehydration of (OWEN), (P.), B., 377. Vegetable products, determination of fatty matter in (TERROINE, LEPAGE, VÉCHOT, and WOLFF), B., 258. Velella spirans (jellyfish), constituents of (HAUROWITZ and WAELSCH), A., 169. Velocity of crystallisation of binary and ternary mixtures (TAM-MANN and Botschwar), A., 196. Velocity of esterification (Petrenko-Kritschenko, Bogatski, and LOUBMAN), A., 116. (Dawson), A., 632.

Velocity of hydrolysis, determination of, from isocatalytic data

Velocity of physico-chemical reactions (VAN LERBERGHE), A., 424. Velocity of reaction (Boguski), A., 211; (Syrkin), A., 523.

theories of (GIORDANI), A., 1145. in the silent electric discharge (Elliott, Joshi, and Lunt), A., 212.

of endothermic decompositions (JANDER), A., 736.

in heterogeneous systems, influence of stirring on (Bekier and Rodziewicz), A., 426.

in mixed solvents (MUCHIN, GINSBURG, and MOISSEJEVA), A., 524; (MUCHIN and MOISEEV; MUCHIN, KARLSON, and STEIN; GINSBURG and MUCHIN), A., 1149.

in presence of strong acids (HANTZSCH and WEISSBERGER), A., 525.

of coupled reactions (Christiansen), A., 1035. of unimolecular reactions (Thomson), A., 212. ionic (Brönsted and Livingston), A., 319. Velocity of solution (MAROVECKI), A., 732. Velocity of sound. See under Sound.

Venoms. See Poisons.

Veramone, formation of, from pyramidone and veronal (Santesson), A., 64.

Veratril, and its derivatives (VANZETTI), A., 462.

Veratrilic acid (VANZETTI), A., 462.

1-[a-(Veratryl)allyl]hydromethylhydrastinine, 6'-nitro- (OBERLIN), A., 681.

1-Veratrylamino-1-cyanocyclopentane (OAKESHOTT and PLANT),

N-β-Veratryl-3:4-dimethoxyhomophthalamic (HAWORTH, Koepfli, and Perkin), A., 472.

2-Veratrylindole (Korczyński, Brydowna, and Kierzek),

β-Veratrylpropionic acid, 6-bromo- (HAWORTH, KOEPFLI, and Perkin), A., 472.

Verbenol (Blumann and Schmidt), A., 567.

Verdet's constant, calculation of (DE MALLEMANN), A., S. Vermin killer, manufacture of (Derregibus), (P.), B., 622. Veronal (5:5-diethylbarbituric acid), localisation of, in the brain

(E. and J. Keeser), A., 1110. elimination and toxicology of (SENSI), A., 173, 1219. additive compound of pyramidone and (Santesson), A., 64.

Verticillium, production of nitrites by (DUFRÉNOY), A., 1227. Vessels, acid-proof linings for (I. G. FARBENIND. and FARBW. vorm. Meister, Lucius, & Brüning), (P.), B., 484. acid- and alkali-resisting coating for (Ehric & Co.), (P.), B.,

Vesuvius, yellow incrustation of the lava of (ZAMBONINI and CAROBBI), A., 1164.

silicates from (CESARO), A., 336.

sublimates from (CAROBBI), A., 38, 129.

Vibration frequency of binary compounds (HERZ), A., 817. Vicin, and its salts (KARRER and WIDMER), A., 253.

Vinasses, destructive distillation of (Guignard), (P.), B., 100*. fertilisers and glycerin from (BARBET), (P.), B., 152*.

Vine, ton. See Micromeria douglassi.

Vines in Kakhetin, plastic substances in stems of (Aleksandrov and Makarevskaya), A., 797.

Vine moths, material for control of (Horst), (P.), B., 233.

Vinegar, manufacture of (Noldin and Hassack), (P.), B., 122; (Noldin), (P.), B., 711*.

malt, sulphur dioxide in (Cox), B., 613.

determination of total solids in (LAUDIG), B., 953. detection of formic acid in (KREUTZ and BÜCHNER), B., 92.

detection of furfuraldehyde in (LAMPITT, HUGHES, and TRACE), B., 501.

Vinyl bromides, substituted, preparation of (KIRRMANN), A., 442. chloride, polymerised. See β -Caouprene chloride. esters, polymerisation of (Consortium für Elektrochem. Ind.),

(P.), B., S23. β -Vinylacrylic acid, and mono- and di-bromo-, derivatives of (FARMER and HEALY), A., 647.

Vinylpyrocatechol methyl ether. See 3-Methoxystyrene, 4-hydr-

iso Violanthrone. See iso Dibenzanthrone.

Viscera, edible (WRIGHT and FORSYTH), B., 426.

Viscose (Numa), B., 69; (Kita, Tominisa, and Sakurada), B., 103; (Kita, Tominisa, Sakurada, and Kono), B., 387. apparatus for treating (Neidich), (P.), B., 215. rotary pump for feeding (Ludwig), (P.), B., 649. optical double refraction of (FAUST), A., 513. birefringence of thread-like structures of (FAUST), A., 201.

turbidity measurements of solutions of (Mukoyama), B., 320. viscosity of solutions of (Waentig), B., 327. viscosity and surface tension of solutions of (MUKOYAMA),

B., 810. colloid chemistry of solutions of (MUKOYAMA), A., 201, 725. gels, synæresis of (Mukoyama), A., 625.

ripening of (FAUST, GRAUMANN, and FISCHER), B., 41. spinning of (KITA, TOMIHISA, SAKURADA, NAKAMURA, and

Kono), B., 675. spinning baths for (Ver. Glanzstoff-Fabr.), (P.), B., 675. manufacture of solutions of (Neumann), (P.), B., 328.

manufacture of artificial materials from (LILIENFELD), (P.), B., 745. production of artificial formations from (Borvisk Syndicate

and Borzykowski), (P.), B., 963. manufacture of fine filaments from (VER. GLANZSTOFF-FABR.),

(P.), B., 675. manufacture of filaments and film bands from (HAWLIK),

B., 103. manufacture of fibres and films from (Soie D'Aubenton;

MENDEL and NEIDICII), (P.), B., 184. production of soft fibres of (I. G. FARBENIND.), (P.), B., 361. production of fibres, silk, hair, and films from (Köln-Rott-WEIL), (P.), B., 387, 873*.

manufacture of hollow articles from (WOLFF & Co., CZAPEK, and WEINGAND), (P.), B., 185.

manufacture of threads from (Courtaulds, Ltd., Hegan, and HAZELEY), (P.), B., 745; (HUTTINGER and ACME RAYON Corp.), (P.), B., 935.

analysis of (Fukushima, Takamatsu, and Watanabe), B.,

Viscosimeters (Larson and Knopf), (P.), B., 96; (Peabody and Peabody Engineering Corp.), (P.), B., 959. capillary, Grüneisen's criteria for (Dorsey), A., 439.

Michell ball, theory of (Boswall), B., 463.

new (Ostwald and Auerbach), A., 201. rapid, for glue and gelatin (GÜNTHER), B., 662.

Saybolt, conditions of flow into the vertical capillary tube of (HERSCHEL), B., 687.

Vogel-Ossag (Meyerheim and Frank), B., 34. works (FREUND), B., 799. Viscosity, laws of (Dubief), A., 195.

Le Chatelier formula for (LASAREV), A., 819. sheer gradient curves of (HATSCHEK), A., 201.

hydrodynamics of systems of variable (Reiner and Rivlin), A., 1138.

and geometrical isomerism (CAUQUIL), A., 616.

and hydration (LIEPATOV), A., 413. velocity function of (MUKOYAMA), A., 201.

of colloidal solutions (HATSCHEK), A., 412. in presence of electrolytes (Charravarti and Dhar), A., 200. of hydrophobic colloidal solutions (Charravarti and Dhar), A., 725.

Viscosity of fluids, comparison of (Know Mill Printing Co. and MORT), (P.), B., 96. of gases (HASSÉ and COOK), A., 616.

lecture experiment on (PRZIBRAM), A., 195.

of liquids above the boiling point (TITANI), A., 616, 819, 927, 1019.

of oils (Schlüter), B., 693.

true and colloidal (Sameshima), A., 200.

Viscous materials, compression of (Soc. Internat. Combustibles LIQUIDES), (P.), B., 464. grinding of (Winslow), (P.), B., 464.

Vitamins (DUTCHER, HONEYWELL, and DAHLE), B., 954. preparation of (WINCKEL and WEICKER), (P.), B., 503. in grapes and grape products (MERJANIAN), B., 89.

in green plants (QUINN, BURTIS, and MILNER), A., 595. manufacture of concentrated preparations of (Acorian),

(P.), B., 426.

preparation of products rich in (Iscovesco and Adams), (P.), B., 377.

anti-beri-beri, isolation of (Jansen and Donath), A., 382; (EYKMAN), A., 1224.

autineuritic, synthesis of, by yeast (PESKETT), A., 1224.

fat-soluble (Steenbock and Coward), A., 595.

influence of, on reproduction (HOLMES, DOOLITTLE, and Moore), B., 614.

resistance of, to hydrogenation (RANDOIN and LECOQ), B., 57. Vitamin-A, sources of supply of (Rosenheim and Webster), B., 857.

in green plants (Dye, Medlock, and Crist), A., 904.

in dried milks made by vacuum and aëration methods (Dur-CHER, HONEYWELL, and DAHLE), B., 954.

in irradiated milk (Supplies and Dow), A., 1223.

in skimmed milk (Platon), A., 796.

influence of light and heat on formation of, in plant tissues (COWARD), A., 595.

effect of irradiation on (Willimott and Wokes), A., 381.

attempt to replace, by xanthophyll in diet (WILLIMOTT and Moore), A., 381.

substance which prevents destruction of, by ferrous sulphate (ESTILL and McCollum), A., 1223.

antimony trichloride as reagent for (Wokes and BARR), B., 569.

colour reactions for (ROSENHEIM and WEBSTER; WILLIMOTT, Moore, and Wokes), A., 78.

detection of, in organ extracts (WILSON), A., 1223.

detection and determination of, in cod-liver oil and food products (Wokes and Willingtr), B., 569.

determination of (Steenbock and Coward), A., 595.

determination of, with antimony trichloride (WILSON), A., 1223. Vitamin-A and -B, differentiation of (SHERMAN and HESSLEE), A., 702.

determination of, in cows' and human milk (MACY, OUTHOUSE, GRAHAM, and LONG; OUTHOUSE, MACY, BREEKE, and Graham), А., 692.

Vitamin-A and -D in milk, effect of diet and sunlight on (Chick and Roscoe), A., 175.

Vitamin-B, formation of, by Bacillus vulgatus (Scheuner and Schieblich), A., 595.

preparation of, concentrated (CACCIA), (P.), B., 549.

extraction of, from wheat germ (McCollum and Keuse), A., 1223.

multiple nature of (SHERMAN and AXTMAYEE), A., 1223.

two active factors in (Salmon), A., 796.

destruction of, by heat (SHERMAN and BURTON), A., 79. calcium in serum in deficiency of (UNGAR), A., 382.

gaseous metabolism with deficiency of (LAVROV and MATZEO), A., 382.

comparative value of, in foodstuffs (PLIMMER, ROSEDALE, RAYMOND, and LOWNDES), A., 1223.

balance of food by (PLDIMER, ROSEDALE, and RAYKOND), A., 905.

in proprietary foods (Koszu), B., 91.

requirements of, for lactation (SURE), A., 305.

relation of protein intake to requirement of (SHERMAN and GLOY), A., 905.

relation between, in diet of cows and in milk produced (BECHDEL and Honeywell), A., 1223.

physiological rôle of (DETHMOND and MARRIES), A. 78; (Reader and Deuxnond), A., 79; (Koy and Deuxnond; Hissin and Deummond), A., 702.

Vitamin-B, water-soluble, composite nature of (Chick and Roscou), A., 702.

detection of (BACHARACH and HARTWELL), B., 313.

determination of (SHERMAN and MACARTTUR), A., 905. Vitamin-B and C in malt and malt extracts (RANDOIN and Lecoq), A., 382.

Vitamin-C, concentrated preparations of (Agorian), (P.), B., 615. in cow's milk (LAVIALLE), A., 487.

relation between, in food and milk of cows (HUGHES, Firen, CAVE, and RIDDELL), A., 382.

solubility of, in lemon juice (VEDDER and LAWSON), A., 702.

Vitamin-D (JENDRASSIK and KEMENYFFI), A., 1224. distribution and origin of (Bills), A., 595.

photochemical production of, from ergosterol (Rosennin and Webster), A., 1224.

parent substance of (Rosenheim and Webster), A., 487. sources of supply of (Rosenheim and Webster), B., 857.

absorption spectrum of (HEILBRON, KAMM, and MORTON), A., 1123.

effect of, on calcium, phosphorus, and hydrogen-ion concentration in the intestines (Yoper), A., 995.

detection of (JEPHCOTT and BACHARACH), A., 79.

detection and determination of, in cod-liver oil, and food products (Wokes and Willimott), B., 569.

Vitamin-E, synthesis of, by plants grown in culture solutions (Evans and Hoagland), A., 703.

existence of, in cod-liver oil (NELSON, JONES, ADAMS, and Anderegg), B., 667.

cod-liver oil and wheat oil as sources of (SURE), A., 905.

relation of, to iron assimilation (Simmonds, Beckee, and McCollum), A., 1224.

Vitis vinifera. See Grape seed oil.

Vitreosil, crucibles of platinum, illium-alloy, and, for determination of volatile matter in coal (Coopen and Oscoop), B., 130. Vitreous masses, manufacture of (Horr), (P.), B., 260.

Volatile substances, recovery of (I. G. FARBENING.), (P.), B., 182*. separation of (Wecker), (P.), B., 340*, 883.

Volta effect (Dubois), A., 832.

Voltameter, sodium (BURT), A., 1049. Volume, additivity of, in inorganic compounds (Moles), A., 812. atomic and molecular (Bier, A., 92, 920; (Biltz and Herzer), A., 188; (Biltz; W. and L. Klemm), A., 498; (Klemm), A., 812.

molecular, at absolute zero (Sugnes), A., 920.

at boiling point (Schuster), A., 103.

Vulcanisation, theories of (Scholz; Dannenberg), B., 564.
accelerators of (Ditmar), B., 229; (Naugatuck Chemical
Co., Cadwell and Maximore; Rubber Service Laboratories Co., North, and Christensen; Goodyrar TIRE & RUBBER Co., BOORD, and COOLIDGE), (P.), B., 393. manufacture of (Elley, Power, and Du Pont de Nemours & Co.), (P.), B., 708; (Geasselli Chemical Co., Williams, and BURNETT), (P.), B., 757.

relation between constitution and accelerator action in (NAUN-

TON), B., 51.

selenium organic compounds for use in (MURRILL and VANDERвит Со.), (Р.), В., 708. See also Rubber.

Vulcanite, manufacture of (STEVEUS), (P.), B., 533.

Vulpinic acid, and its derivatives (MAZZA; PIUTTI and MAZZA), A., 1072.

W.

Wadding, non-hydrophile (Pareterres de la Robbetsau), (P.), B., 745.

Walchowite (Fuchs and Landenann), A., 225. Walden inversion (WARD), A., 453; (LEVESE and WALTI), A.,

644; (Levere, Moet, and Mixerea), A., 1171.

Walls, facing and preservation of (Doctall), (P.), B., 412.
Walnut seeds, absorption of fons by (Hals and Reed), A., 599, 98. Wash-bottle (Kochkann; Bolling, A., 128.

Washing, machines for Ollax And Chemical Engineering CORP.), (P.), B., 329; (COWLES ENGINEERING CORP.). (P.), B., 553.

for fabrics (SHAW and SHAW), (P.), B., 700.

of fabrics (Shydler), (P.), B., 214. of textiles (Duhamel and Comp. Gen. Ind. Textiles ; Payer), (P.), B., 79.

Washing apparatus involving intermixing of gases and liquids (Pease), (P.), B., 897.

for gas and air (PNEUMATIC CONVEYANCE & EXTRACTION and CHEW), (P.), B., 832.

for fabrics (WINTER and JORDAN), (P.), B., 747. for sand or gravel (SOUTHALL), (P.), B., 910.

Washing soda. See Laundry soda and Sodium carbonate.

Waste, industrial, dewatering, compressing, and drying of solids of (MANNING), (P.), B., 62.

See also Refuse and Trade waste.

Water, molecular constitution of (TAMMANN), A., 93.

pure, preparation of (Krause and Novosselov), A., 952. catalytic synthesis of, in contact with gold (Benton and

ELGIN), A., 1150.

with metallic silver (Benton and Elgin), A., 118.

refractive index of (MIE), A., 89; (McCarthy and Jones), A., 711.

vapour, refractive index and dielectric constant of (Bramley), A., 610.

band spectrum of (JACK), A., 808.

infra-red oscillation spectrum of (Ellis), A., 291. magnetic rotatory dispersion of, and its mixtures with alcohol (Stephens and Evans), A., 295.

electrolysis of (Verschaffelt), A., 211.

apparatus for (Casale), (P.), B., 449; (Scott), (P.), B., 561; (Allan), (P.), B., 561, 786; (Verein. für Chem. & Met. Prod.) (P.), B., 786.

Knowles plant for (Sestini), B., 785.

behaviour of various metals as electrodes in (Roller), A.,

influence of pressure on (Cohen), (P.), B., 630.

determination of degree of dissociation of (DAWSON), A., 737. electrolytic transference of (Remy), A., 315, 1032. potential difference in the double layer of (Bühl), A., 1144. vapour, potential gradient for, in the positive column (GÜNTHER-Schulze), A., 709.

dielectric constant of (FÜRTH), A., 919.

latent heat of vaporisation of (VREVSKI; VREVSKI and NIKOLski), A., 733.

vapour, molecular heat of (Shilling), A., 301.

specific heat of, and its dissociation at high temperatures (McCrea), A., 1131.

density of (Shirai), A., 403.

and its solutions, critical state of (Schröer), A., 1029.

vapour pressure of, over sulphuric acid-water mixtures (Mc-Haffie), A., 206.

surface tension of (MILLS and ROBINSON), A., 927.

pure (Moser), A., 507.

vapour, adsorption of, by charcoal (Coolinge), A., 406. free, removal of, from substances (Elmore and Comley), (P.),

apparatus for heating (TAYLOR and STUBBING), (P.), B., 129. distillation of (OLIVER), (P.), B., 462.

still for (OLIVER), (P.), B., 718.

vapour, separation of condensate from (CHEVALIER), (P.), B., 690.

purification of (OIKAWA), B., 205; (ÉTABL. PHILLIPS & PAIN), (P.), B., 270; (BAMAG-MEGUIN A.-G.; ATLAS-WERKE A.-G.), (P.), B., 462.

from injurious forms of life (MAXWELL-LEFROY and GRAESSER Monsanto Chemical Works), (P.), B., 158.

electrolytic purification of (Siemens-Schuckertwerke), (P.), B., 830; (Behrman), B., 958.

apparatus for testing, for impurities and dissolved matter (EVERSHED & VIGNOLES and PERRY), (P.), B., 400.

de-aeration of (SIM), (P.), B., 462.

clarification of (Kern), (P.), B., 62. filtration of (Lewis), (P.), B., 206; (Blaisdell and Blaisdell FILTRATION Co.), (P.), B., 350.

changes in dissolved oxygen during (Gallahen), B., 430. heat losses in sand filtration of (Tyler, Danielson, and LEBOSQUET), B., 126.

cleaning of sand filters for (SIVADE), (P.), B., 238.

chlorination of (Brooks and Mathreson Alkali Works Corp.), (P.), B., 158; (Howard and Thompson), B., 204. apparatus for controlling the supply of gas for (BRAMWELL),

(P.), B., 894. and determination of its chlorine content (HARRINGTON and Rовв), (P.), B., 462.

for control of algæ (Cohen), B., 430.

Water, electrolytic chlorination of (Jenks), B., 510.

super-chlorination of, to remove chlorophenol tastes (HARRIson), B., 381.

absorption of chlorine by (Meadow and Hale), B., 718.

influence of free chlorine on climination of manganese from (Weber), B., 926.

potassium permanganate absorption, "chlorine number" and chlorination of (Olszewski), B., 62.

eradication of chloro-tastes of (BAKKE), B., 158.

prevention of phenol tastes in, by ammonia (MacAmis), B., 381. electrolytic sterilisation of (SALLES), (P.), B., 574.

softening of, by base exchange (Morawe), (P.), B., 894. with lime (Hoover), B., 510

with zeolites (Nordell), (P.), B., 206; (Behrman), B., 430; (White, Walker, Partridge, and Collins), B., 798; (GREEN and GEN. ZEOLITE Co.), (P.), B., 894.

at Oberlin, Ohio (CHAPIN), B., 894.

preparation of materials for (PRATHER), (P.), B., 766.

apparatus for (BARTLETT), (P.), B., 462. softening and clarification of (FLENTIE), B., 318.

softeners for (Kern), (P.), B., 62; (EISENHAUER and DURO Co.), (P.), B., 462; (JOHNSON and WARD-LOVE PUMP Corr.), (P.), B., 622; (TANNEHILL and FORT WAYNE ENGINEERING & MANUF. Co.), (P.), B., 718.

preparation of (Behrman and Gen. Zeolite Co.), (P.), B., 718.

two-flow, base-exchange (McGill and Reiter Co.), (P.), B., 718.

reconditioning of zeolites softeners for (Kenney and Zeolite Engineering Co.), (P.), B., 350.

removal of air from (Piron), (P.), B., 158.

inhibition of substances causing hardness of (Ullmann), (P.), B., 30.

treatment of, to prevent corrosion (Baylis), B., 717.

hot, diminishing internal rusting of apparatus fed with (Hüls-MEYER), (P.), B., 894.

vapour, reaction between incandescent carbon and (THIELE and Haslam), A., 944.

action of, on iron and manganese (Lührig), В., 462. solubility of lead from pipes in (FARINE), B., 318.

contaminated with coal gas, testing of (REGENSTEIN), B., 862. treatment of, for use in silk manufacture (BRYSILKA, LTD., and SCHUBERT), (P.), B., 126.

bacteriology of (SAVAGE), B., 313.

treatment of, with ammonia and chlorine to destroy germs (Olszewski), B., 382.

effect of excess of, in diet (GREENE and ROWNTREE), A., 480. Water, boiler, treatment of (Hall and Hopwood), (P.), B., 238*. boiler feed, purification of (AKT.-GES. STICKSTOFFDUNGER),

(P.), B., 430. removal of gas from (MÜLLER), (P.), B., 33; (TÖLLER), B., 590. automatic hydrogen-ion control of (PARKER and GREER), B.,

determination of hardness in (Burton and Haslam), B., 382.

brewing, treatment of (JALOWETZ), (P.), B., 430. purification of (Bode), B., 152.

condensation, removal of oil from (GAIL and ADAM), (P.), B., 270*.

conductivity, preparation of (Bengough, Stuart, and Lee), A., 1045.

distilled, for biology (Canals and Mousseron), A., 600. hard, softening of (Petroff and Shestakoff), (P.), B., 926. industrial, determination of hardness of, alkalimetrically

(Belcot), (P.), B., 62. determination of magnesium in (Belcot), B., 10.

mineral artificial, preparation of (Warburg), (P.), B., 503, 858. production of, from coal (Branco), (P.), B., 265, 507. softened, recarbonation of (HOOVER), B., 717.

waste, purification of (RAVNESTAD), (P.), B., 270*; (FRANZ), (P.), B., 798.

NATURAL WATER:~

determination of carbon dioxide and carbonates in, colorimetrically, in the field (Powers), B., 958. changes in hydrogen-ion concentration of (Enevoldsen), A.,

Lake water, micro-Kjeldahl ammonia distillation apparatus in analysis of (Kemmerer and Hallett), B., 958.

Baltic, arsenic content of (Goy and RUDOLPH), A., 955. of the Black Sea, diffusion of gases and salts at various depths of (Yegunov), A., 955.

NATURAL WATER:-

Lake water from the Dead Sea, analysis of (KOEFOED and HAUGAARD), A., 329.

of Lake Castelgandolfo, seasonal variation of organic nitrogen compounds in (Campanile), A., 850.

of Lake Michigan, use of brilliant-green-bile medium in testing (Ruchнoff), В., 205.

of the Washington Ship Canal, hydrogen sulphide in (Smith and Thompson), B., 622.

salinity of (SMITH and THOMPSON), B., 862.

Potable or drinking water, sterilisation of, by electrolysis (CHEVRIER and SALLES), B., 670.

removal of dissolved organic substances from (Lührig), B.,

removal of manganese from (TILLMANS, HIRSCH, and HÄFF-NER), B., 205.

town, removal of iron from (Lührig), B., 574.

detection of facal impurities in (SCHMIDT), B., 205.

detection and determination of iron in (KRÖHNKE), B., 542. determination of iodine in, microchemically (Settimj), B.,

determination of sulphates in, volumetrically (BAHRDT), B., 238.

determination of sulphuric acid in, by use of benzidine (Raschio), В., 894.

River water, control of (ZINK and HOLLANDT), B., 862.

diurnal variation of gaseous constituents of (Butcher, Pentelow, and Woodley), A., 899.

Sea water, evaporation of (Shoulejkin), A., 627. purification of, by storage (STOWELL), B., 205. adsorption of ions from, by sand (Stowell), A., 748. arsenic and phosphorus compounds in (ATKINS and WILSON),

A., 538. gold in (Haber), A., 439.

recovery of gold from (Szilard), (P.), B., 970.

extraction of potassium and magnesium salts from (NICCOLI),

stored, effect of plankton on phosphate content of (GILL), A., 747.

of the Clyde area, effect of plankton on properties of (Marshall and Orr), A., 746.

of the Gulf of Aden, arsenic and phosphorus content of (MATTHEWS), A., 1050

of the Tyrrhenian Sea, density of (Thoulet), A., 335. in the Zoological Society's aquarium (STOWELL), B., 205.

Spring and mineral waters, physical chemistry of (Betti, Bonino, and Vaclio; Bonino), A., 517.

catalytic properties of (FRESENIUS, EICHLER, and LEDERER), A., 320.

lability of (Kopaczewski and Sarmento), B., 206.

corrosion of lead by (KAJA), B., 911.

action of, in diabetes (KAUFFMANN-COSLA, and R. and W. ZÖRKENDÖRFER), A., 479.

of Bulgaria, rare gases in (Péntenev), A., 955. of Japan, radioactivity of (Shiratori), A., 1004.

of Wiesbaden, catalytic activity of, and their reaction with benzidine (Fresenius and Lederer), A., 1038.

decomposition of hydrogen peroxide by (Fresenius, Eighler, and Lederer), A., 320.

hot, biochemistry of (HARPUDER), A., 589.

Water analysis :-

analysis of (Johnson), B., 318; (Atkin and Burton), B., 830. detection of impurities in, electrolytically (Crockatt & Sons and Crockatt), (P.), B., 303.

detection of Bacillus coli in (EGGER and MAIER), B., 622. detection and determination of iron in (Kröhnke), B., 542.

determination of (Edert), A., 221. apparatus for determination of (KATTWINKEL; PRITZKER and

JUNGKUNZ), B., 63. determination of, by the volatile solvent method (Jones and McLachlan), B., 591.

determination of, in organic substances (Cantzler and Roths-

сипь), В., 795. determination of hardness and alkalinity of (VIGNAL), B., 670. determination of calcium, magnesium, and sulphates in (Sсносн), B., 158.

determination of free carbonic acid in (Lührig), B., 462. determination of sulphuric acid in (HAASE), B., 798.

Water baths, constant level device for (FOUQUE; GERDEL), A., 224.

Water mains, cement-lined (Carson), B., 718.

Water pipes, prevention of incrustation of (BÜCHER), (P.), B.,

concrete lining for (BAYLIS), B., 514.

Water supply, filtration of (EGGER), B., 270. filter for (EISENHAUER and DURO Co.), (P.), B., 206. effect of pipes of different metals on (CLARK), B., 509.

in Burma, comparison of results of Clemesha's method and test of citrate utilisation as applied to (Taylor, Martin, and J. V. R. and P. N. R. NAIDU), B., 958.

industrial, screening or filtering apparatus for (Brackett & Co. and Brackett), (P.), B., 206.

Waterproof materials (Häfele), (P.), B., 406.

manufacture of (Vohl & Co.), (P.), B., 362; (Moreton), (P.), B., 362*.

for buildings (Forrest), (P.), B., 301. Waterproof paper. See under Paper.

Waterproof products, manufacture of (KIRSCHBRAUN), (P.), B., 71. Waterproofing, manufacture of compositions for (Thompson and McGivern), (P.), B., 118; (Naugatuck Chem. Co. and Owen), (P.), B., 295.

of tanks, vats, etc. (SWINDIN), (P.), B., 800.

of textiles (Moreton and Waterproofers, Ltd.), (P.), B., 165. of vulcanised fibre (NOVOTNY, ROMIEUX, and STOKES), (P.), B., 295.

composition for (ASHBY), (P.), B., 884.

Waterworks, manganese in (v. Wolzogen Kühr), B., 717. Wave mechanics, unidirectional quanta in (Breit), A., 606.

Wax, treatment of (ENELL and CHADELOID CHEMICAL Co.), (P.), B., 915.

chilling and separation of (Sharples Specialty Co.), (P.), B., 181.

bees, origin of coloration of (JAUBERT), B., 707, 754. flower (D'Ambrosio), A., 176; (Straman), B., 146.

maize (Shriner, Nabenhauer, and Anderson), A., 798. montan, production of (RIEBECK'SCHE MONTANWERKE; BEER), (P.), B., 181.

paraffin. See Paraffin wax.

peat, from Chatham Islands (IMPERIAL INSTITUTE), B., 835. petroleum. See Petroleum wax.

Waxes, isolation of, from untopped crude oil without pyrolysis (Gordon and Marshall), B., 642. extraction of (L. J. and A. Simon, and Simon Bros.), (P.), B.,

apparatus for distillation of solvents used in extraction of

(Simon and Simon Bros.), (P.), B., 946. separation of, from oils (JONES and SHARPLES SPECIALTY Co.),

(P.), B., 549*. insulating, effect of moisture on electrical properties of (Lee and Lowry), B., 225.

apparatus for determining the softening point of (HERBST), B., 244.

thermal analysis of (ARNDT), B., 339.

vegetable, decomposition of (MAILHE), B., 821.

determination of acidity of, with isopropyl alcohol as solvent (Schuette and Smith), B., 117.

Weeds, destruction of (RATHSACK), (P.), B., 422.

Weed-killers (GRAESSER-MONSANTO CHEMICAL WORKS, and MAXWELL-LEFROY), (P.), B., 94; (Hughes and Weed Con-TROL CO. OF CALIFORNIA), (P.), B., 567; (CHEM. FABR. MEYER), (P.), B., 826. sulphuric acid as (ASLANDER), B., 710.

Weight in air and in vacua (Ruer and Kuschmann), A., 1134. of powder in air and in a vacuum (ZINTL and GOUBEAU), A.,

Weights, molecular, determination of (Jörg), A., 613; (Reilly and PYNE; KUBOTA and YAMANE), A., 925; (SMITH and Young), A., 1128.

by centrifuging (SVEDBERG), A., 716.

by chullioscopy (Sucharda and Bobranski), A., 849. in liquid chlorine (BUTLER and McIntosh), A., 828.

with diethylene dioxide as solvent (Anschütz and Broeker), A., 131.

of sparingly soluble substances in camphor (Carlsohn), A., 300.

Weissite (CRAWFORD), A., 538.

Welding, flux for (THEURER), (P.), B., 913.

are (Internat. Gen. Electric Co. and Allgem. Elektrici-TATS-GES.), (P.), B., 416; (GENERAL ELECTRIC Co.), (P.) B., Welding, gas or arc, alloy steel rods for use in (SOHULZ), (P.), B.,

Wetting-out agents (I. G. FARBENIND.), (P.), B., 249, 860. testing of (KIND and AUERBACH; KRAIS), B., 248.

use of, in textile industry (British Dyestuffs Corp., Baddi-LEY, and CHAPMAN), (P.), B., 841.

Wetting power in relation to surface tension (Nellensteyn), B.,

Whale meat, protein in products from (DAVIES), B., 376. Whale oil, fatty acids of (TOYAMA), B., 82, 83. hardened, detection of, in lard (GRONOVER and BLECHSCHMIDT), B., 730.

sperm (André and François), B., 584.

detection of (Davidsohn), B., 303; (Tsujimoto), B., 754. Wheat, studies on (Sharp; Sharp and Schreiner; Whitcomb and Sharp), B., 201; (Sharp and Herrington), B., 761.

chemical composition of (SCHHUKIN), B., 568.

relation of kernel texture to physical properties, chemical composition and baking qualities of (Shollenberger and Cole-MAN), B., 396.

density of, under varying conditions (Sharp), B., 397.

chemical properties of various kinds of (Berczeller and Wastl), A., 388.

acidity of (THOMPSON), B., 589.

adsorption of copper by rust spores of (Bodnár, Villanyi, and TERÉNYI), A., 600.

enzyme content of resting grains of (OPARIN and POSPELOVA), A., 1226.

effect of temperature on physiological value of salt solutions for growth of (S. F. and H. M. TRELEASE), A., 704. antagonism between chlorides and sulphates in development of

(Blanchard and Chaussin), B., 760.

relation between nitrate production and yield of, after certain

crops (Karraker), B., 949. effect of hydrogen-ion concentration on absorption of phos-

phorus and potassium by seedlings of (DAVIDSON), B., 950. effect of time of irrigation on production of protein in (KEZER), B., 199.

relation of magnesium in ash to lipoid-protein ratio in (Sullivan and NEAR), B., 313.

effect of available nitrogen on protein content of (Gericke), B., 826. calculation of percentage of protein in, from that of nitrogen

(Jones), B., 396. effect of admixture of fenugreek seeds with, on flour (Fleurent),

α- and β-glutelins of (Csonka and Jones), A., 799.

mutase in (KLAR), A., 907.

durum (Vocel and Bailey), B., 590.

durum and hard red spring, relation of protein content to baking quality of flour from (MANGELS), B., 202.

etiolated, formation of vitamin-A in (Moore), A., 904. hard spring, ash of (Sullivan and Near), B., 590.

miller's, treatment of, to eliminate wild garlic (PATROUILLEAU), (P.), B., 345.

New Zealand (Foster), B., 264, 396.

determination of baking value of, from energy of deformation of dough (Chopin), B., 396.

gasoline colour value of (Coleman and Christie), B., 396. determination of quality of gluten in (COLEMAN, DIXON, and Fellows), B., 501.

determination of amino-acids and proteolytic activity in (DENHAM and BLAIR), B., 397.

determination of calcium, iron, magnesium, phosphorus, protein,

and ash in (HARDING and DYSTERHEFT), B., 397. Wheat flour, control of diastatic activity in (SHERWOOD and Bailey), B., 201; (Mangels), B., 202.

extraction of proteins from (Sharp and Herrington), B., 761. preparation and analysis of proteins of (HOFFMAN and GORTNER), *B., 538; (Grew and Bailey), B., 539.

rate of drying of starch, gluten, and (FISHER), B., 638. action of benzoyl peroxide on (BAGLIONI and SETTIMJ), B., 762.

effect of application of sodium nitrate on baking quality of (Davidson and Schollenberger), B., 202.

determination of glutenin in (BLISH, ABBOTT, and PLATENIUS),

Wheat germs, vitamins in (Scheunert), A., 595.

Wheat-germ oil, phytosterols of (Anderson, Shriner, and BURR), B., 49.

Wheat oil (Ball), B., 196.

Wheat starch. See under Starch.

Whey, determination of hydrogen-ion concentration of (Sharp and McInerney), A., 70.

White lead. See Lead carbonate, basic.

Whitewash, high-temperature (ARTHUR, MITCHENER, Withrow), B., 483.

Whiteware bodies from the Ohio State University (WATTS), B., 778. Whiting, physical properties of various grades of (GARDNER), B., 418.

Wiedemann-Franz law (Eucken and Dittrioh), A., 506. Willow bark, leaching of (Pavlovitson), В., 230.

Wines, physical chemistry of (CASALE), B., 200.

clarification of (REICHARD), B., 455.

deacidification of, by warm storage (Röttgen), B., 24. inoculation of, against secondary fermentation (Malvezin), B.,

value of hydrogen-ion concentration of (Täufel and Wagner), B., 612.

iron content of (FABRE and BREMOND), B., 500.

removal of iron from, by oxidation (GRANDCHAMP and WOLFF), (P.), B., 568.

pectins and gums in, and their determination (Semichon and FLANZY), B., 792.

salicylic acid as a preservative for (Fonzes-Diacon and LAFORCE), B., 25.

sulphur dioxide in making of (Moreau and Vinet), B., 665. vanillin in distillates from (REIF), B., 953.

in bottles, sulphurisation of (SEITZ-WERKE), (P.), B., 857.

abnormal, determination of tartaric acid in (Fonzes-Diacon),

dutiable, colour and alcohol content of (STADLER), B., 665. fruit and grape, detection of gallic acid in (KLOSS and SEIFERT), B., 612.

grape, detection of fruit wines in (RÖTTGEN), B., 24, 826; (HEIDUSCHKA and PYRIKI), B., 264, 686; (MÜLLER, VOGT, and RAESCH), B., 665; (RÜDIGER and DIEMAIR), B., 666; (Kalberer), B., 686.

detection of fruit wines in dregs of (WIDMER and KALBERER),

B., 568.

from grapes attacked by Lepidoptera cochylis and eudemis (Ferré), B., 152.

Marsala, manufacture and evaluation of (Kickton and Berg). B., 24.

sparkling, production of (Jordt), (P.), B., 711.

white, clarification of (Ano. Maison Gerbaud Soc. Anon.), (P.), B., 953.

clouding of, in bottle (DUBAQUIÉ), B., 25.

detection and identification of coal-tar dyes in (VALENTI), B.,

detection of fig extract in (Guerrieri), B., 200.

determination of acidity of, with diazoacetic ester (Bredic and SIEBENMANN), B., 686.

determination of hydrogen-ion concentration of (Dietzel and Rosenbaum), B., 665.

determination of strength of, by boiling-point method (FILAU-DEAU), B., 89.

Wires, coating of (GIRARD and ROUMAZEILLES), (P.), B., 727*. electrically exploded (Anderson and Smith), A., 605. thin, manufacture of (Hertz and N.V. Philips' Gloeilampen-FABR.), (P.), B., 449*.

Witherite, history of (Fowles), A., 1164.

Wood, treatment of (SMITH and PHIPPS), (P.), B., 328. chemical treatment of (SCHWALBE), B., 898.

improvement of quality of (Auspitzer), (P.), B., 142.

electrical resistance of, as a measure of its water content (Stamm), B., 820.

effect of partial hydrolysis on solubility of, in alkalis (HAWLEY and CAMPBELL), B., 518.

carbonisation of (Seib), B., 593. apparatus for (HENNEBUTTE and GOUTAL), (P.), B., 35.

retorts for (Soc. Anon. Anc. Établ. Loy & Aubé), (P.), B., 468.

recovery of concentrated acetic acid and other products from (SUIDA), (P.), B., 956.

cooking of, by the soda process (RUBY), B., 103.

digestion of, with liquors of low sulphite content (HÄGGLUND),

distillation of gas from (STAFFORD), B., 97. working up volatile products of distillation of (FREUND), (P.),

B., 626.

Wood, gas producers for (LASMOLLES), (P.), B., 467. decay of (FALCK and HAAG), B., 213. coating of (BAUR), (P.), B., 371. paints as protective coatings for (Browne), B., 821. preservatives for (Wolman, Peters, and Pelug; Stockholms SUPERFOSFAT FABR. AKTIEBOLAGET), (P.), B., 678. preservation of (Heckert), (P.), B., 13; (Arent and Arent LABORATORIES), (P.), B., 14; (DREFAHL and GRASSELLI CHEMICAL CO.), (P.), B., 166; (SCHWALBE), B., 189; (CURTIN and WESTERN UNION TELEGRAPH Co.), (P.), B., 367, 525; (CURTIN), B., 750; (Howald and Grasselli Chemical Co.), (P.), B., 751*; (Plank), (P.), B., 790; (RÜTGERSWERKE A.-G.), (P.), B., 909; (CURTIN and BOGERT), B., 938. composition for (RASCHIG), (P.), B., 222*; (GUNN), (P.), B., use of arsenites of copper and zine and of basic substances in (Curtin), B., 909. use of shale oil in (SOWDER), B., 909. by impregnation (HIMMELSBACH and HIMMELSBACH GEBR.), (P.), B., 142* impregnation of (Dessemond), (P.), B., 678; (Montan Inc. and Coolidge), (P.), B., 909, 939*. apparatus for (Bubla), (P.), B., 367. and electrical removal of its ash (Bechnold and Heymann), B., 603. corrosive sublimate for (Moll), B., 878. with paraffin (EBERLEIN and BURGESS), B., 189. with staining solutions (SCHMALZL), (P.), B., 190. impregnated with tar oil, treatment of (SIEMENS-SCHUCKERT-WERKE and VAUPEL), (P.), B., 843. use of waste materials from, and its preservation (Schwalbe), B., 898. dissolving out lignin from (Dresdener Chromo- & Kunst-DRUCK-PAPIERFABR. KRAUSE & BAUMANN and SCHWALBE), (P.), B., 811. penetration of oils in (HOWALD), B., 603, 702. paint tests on (GARDNER), B., 851. production of paints for (CARVER), (P.), B., 787. treated with creosote and zinc chloride, white paint tests on (GARDNER), B., 585. fire- and weather-proofing of (SUIDA and SALVATERRA), (P.), B., 966. through dyeing of (Ambühl), (P.), B., 703. production of lactic acid by fermentation of sugars from alcoholic fermentation of (MARTEN, SHERRARD, PETERSON, and FRED), B., 889. saccharification of (Soc. Ind. de la Cellulose), (P.), B., 935. unsaturated sugar complexes in (Fuchs), B., 405. action of aromatic amines and phenols on (Hägglund and Johnson), A., 995. Wood, artificial, manufacture of (SURDI), (P.), B., 780. autumn and spring, properties and relative value of, for sulphite pulp (Hägglund and Johnson), B., 164. dry or green, hydrogen-ion values for (LEGENDRE), B., 412. green, distinction between old wood and (Fron), B., 790. impregnated, diffusion of water-soluble substances (NOWOTNY), B., 842. pine. See Pine wood. pliable, production of (BRITISCHE HOLZ-AGENTUR), (P.), B., spruce, digestion of, with bisulphite (Hägglund), B., 213. Wood chips, production of soda cellulose from (RINMAN), (P.), B., 104*. Wood fibres, treatment of black liquor from manufacture of (HAGGLUND), (P.), B., 165. Wood oil, light, oxidation and hydrolysis of (Powers, Lowy, and HAMOR), B., 227. Wood pulp (MOUNT), (P.), B., 185, 438*. manufacture of (I. G. FARBENIND.; BARKER and Dooley), (P.), B., 104; (A. S. PICTET & THARALDSEN), (P.), B., 138. soda process for (Cable, McKee, and Simmons), B., 327. treatment of black liquor from (BRADLEY, McKEEFE, and Bradley-McKeefe Corp.), (P.), B., 139. chemistry of sulphite process for (Hägglund), B., 213. from resinous wood (Subervie and Dulon), (P.), B., 185. filtration of (Beveringe), (P.), B., 138. bleaching of (Bergman), B., 138. testing bleaching quality of (JOACHIM), B., 872. chlorine consumption value of (EHRENFRIED), B., 294.

Wood pulp, treatment of paste of (RAMAR SYNDICATE), (P.), B., waterproofing of articles made from (STURMEY), (P.), B., 873. high a-cellulose, production of (Brown Co.), (P.), B., 935; (Righter and Brown Co.), (P.), B., 983; mechanical, measurement of "wetness lactor" of, by the Schopper-Riegler apparatus (Brecht and Sonaux), B., 744. soda, utilisation of black liquor from (Hägglund), (P.), B., Wood smoke, detection of formaldehyde in (Callow), B., 615. Wood spirit, constituents of (PRINGSHEIM and SCHREIBER), B., Wool, washing of (DUHAMEL and COMP. GEN. DES IND. TEXTILES), (P.), B., 70, 872; (PAYNE), (P.), B., 70. machines for (Petrie and Petrie & McNaught), (P.), B., washing- and milling-fastness of acid dyeings on (I. G. FARBEN-IND.), (P.), B., 905. degreasing of (Bruckhoff), (P.), B., 295; (N.V. Aldem. Chem. Produktenhandel), (P.), B., 387. decomposition of, at 100° (RAYNES), B., 294. testing of wetting-out agents for carbonising (Kind and Augustani); Krais), B., 248. chemistry of (Kinc), B., 932. action of alkalis on (Chapin), B., 360. action of ammonia on (FARRAR and KING), B., 293. chlorination of (Speakman and Goodings), B., 293. cholesterol content of (ECKSTEIN), A., 691. isoelectric point of fibroin from (MEUNIER and Rey), B., 276. action of formaldehyde on (Bell), B., 293. dyeing of. See under Dyeing. treatment of, to diminish affinity for dyes (I. G. FARBENIND.), (P.), B., 214. anthraquinone dyes for (I. G. FARBENIND.), (P.), B., 405. azo-dyes for (FARBW. VORM. MEISTER, LUCIUS, & BRÜNING), (P.), B., 292. cellulose product with the appearance of (Pellerin), (P.), B., pancreatic digestion of (MEUNIER, CHAMBARD, and COMTE), B., 551.Wool fat, purification of (Fowler and Edser), (P.), B., 118*. bleaching of (Lifschütz), (P.), B., 563. Wool fibre, intracellular structure of (Speakman), B., 932. removal of scale from (King), A., 477. Woollen goods, moth-proofing composition for (LARVEX CORP. and MINAEFF), (P.), B., 8. Worenine, and its hydrochloride (Kitasato), A., 1095. Works, chemical, collapsing strength of thin tubes and pipes in (SCHAPHORST), B., 688. Wormseed oil (Thoms), B., 828. Worts, composition of (HIND and BEETLESTONE), B., 89. influence of brewery water on (KOUDELKA), B., 567. boiling of (SKINNER), B., 374. influence of hydrogen-ion concentration on colour development in (WINDISCH and KOLBACH), B., 423. refrigeration of (WATKINS), B., 200. yeast reproduction in, of varying gravities (HOPKINS), B., 567. Writing fluids (MARCONI'S WIRELESS TELEGRAPH Co. and RANGER), (P.), B., 531. Wurtz-Fittig reaction, mechanism of (BACHMANN and CLARKE), A., 962. X. Xanthanoic acid, and its derivatives (CONANT and GARVEY), A.,

Writing fluids (MARCONI'S WIRELESS TELEGRAPH CO. and RANGER), (P.), B., 531.

Wurtz-Fittig reaction, mechanism of (Bachmann and Clarke), A., 962.

X.

Xanthanoic acid, and its derivatives (Conant and Garvey), A., 975.

Xanthen, hydrogenation of (Ipatiev and Orlov), A., 251.

Xanthic acid, alkali salts, manufacture of (Rosenstein and Great Western Electro-Chemical Co.), (P.), B., 108*; (Hirschkind and Great Western Electro-Chemical Co.), (P.), B., 796.

derivatives of (Nametkin and Kursanov), A., 240.

Xanthine oxydase, distribution of, in organs (Morgan), A., 76.

Xanthone, absorption spectra of derivatives of (Tasaki), A., 918. hydrogenation of (Ipatiev and Orlov), A., 251. compounds of, with glyoximes (Semeria and Bocca), A., 135.

Xanthophanic acids (Feist, Delfs, and Langenkamp), A., 151; (Feist, Janssen, and Chen), A., 357.

Xanthopinacol (Gomberg and Bachmann), A., 246.

Xanthorrhaa arborea, hastilis and reflexa, oils from (Finlayson), B., 27.

Xanthorubin (Enderlen, Thannhauser, and Jenke), A., 274. l-a-Xantho-n-valeric acid (Levene, Mori, and Mikeska), A., 1171. Xenon, spectrum of (McLennan and Ruedy), A., 911.

intense rays in (PERARD), A., 390.

potential gradient for, in the positive column (GÜNTHER-SCHULZE), A., 709.

Xenotime, crystal structure and chemical constitution of (VEGARD), A., 1014.

o-Xylene, electrochemical oxidation of (FIGHTER and RINDERS-PACHER), A., 348.

m-Xylenes, chloro-2-nitro- (Dadswell and Kenner), A., 656. p-Xylene, pure, preparation of (MERCK and DÜTZMANN), (P.), B.,

electrochemical oxidation of (FIGHTER and RINDERSPACHER), A., 48.

m-Xylene-4-diazonium sulphonic acid, sodium salt (Hall and G1BBS), A., 1181.

m-Xylene-2:4-disulphonyl fluoride (STEINKOPF), A., 964.

Xylene-4-seleninic acids (Porritt), A., 267.

Xylenesulphonic acids, preparation of (Orlov), A., 1178.

Xylenesulphonyl fluorides, and 4-amino-, and its hydrochloride, and nitro- (STEINKOPF), A., 964.

m-Xylenol, electrochemical oxidation of (FIGHTER and RINDERS-PACHER), A., 353.

m-2-Xylidines, bromo, and chloro, and their derivatives (DADSwell and Kenner), A., 656.

Xylol-musk, melting points of (TREFF), B., 59.

Xyloquinone, condensation of diazomethane with (ROTTER), A., 247.

m-Xylorcylaldehyde (Robertson and Robinson), A., 1084.

6-β-d-Xylosido-d-glucose, and its hepta-acetate (Helferica and RAUCH), A., 859.

i-Xylotrimethoxyglutaromethylamide (HAWORTH and JONES), A.,

i-Xylotrimethylglutaramide (Haworth and Jones), A., 1059.

5-Xylylamino-2-keto-2:3-dihydro-1:3:4-thiodiazole (Guha SEN), A., 784.

2-Xylylamino-5-thiol-1-xylyl-1:3:4-triazole (Guha and Sen), A.,

m-Xylylsyn-α-anthraquinone, derivatives of (Scholl, Semp, and STIX), A., 676.

m-Xylyldiazonium fluoborate (Balz and Schiemann), A., 654. Xylyl-α-hydroxyisopropyl ketone, and its derivatives (Blaise and

Herzog), A., 646. 2-Xylylimino-5-methylthiol-2:3-dihydro-1:3:4-thiodiazole (P. C.

and S. C. Guna), A., 982. 2-(4'-m-Xylyl)-8-methyl-1-anthrapyridine. See 2-(4'-m-Xylyl)-8-

methyl- $\beta\beta$ -naphthaquinoline. 2- $(4'-m-Xylyl)-8-methyl-\beta\beta$ -naphthaquinoline (I. G. FARBENIND.

and Fabr. vorm. Meister, Lucius, & Brüning), (P.), B., 903. 2-(4'-m-Xylyl)-5-pyridyl 4-m-xylyl ketone, and its sulphate (I. G. FARBENIND. and FARBW. VORM. MEISTER, LUCIUS, & BRÜNING), (P.), B., 903.

m-Xylyl-1:9-pyrrolenino-9-hydroxy-10-anthrone (Scholl, Semp, and STIX), A., 676.

1-m-Xylyl-1:9-pyrrolinoanthranol-10-azyl (Scholl, Semp, and STIX), A., 676.

potassium salt and benzoyl derivative (Scholl, Semp, and Stix), A., 885.

py-m-Xylylperipyrrolinoanthranolazylium perchlorate (Schole, STIX, and SEMP), A., 885.

Xylyl-4-selenoglycollie acids (Porrit), A., 267.

Xylylthiocarbamides (Dyson, George, and Hunter), A., 351. Xylylthiocarbimides (Dyson, George, and Hunter), A., 351.

δ-Xylylthiosemicarbazidedithiocarboxylic acid, methyl ester (P. C. and S. C. Guha), A., 982.

4-Xylylthiourazole, and its disulphide (Guha and Sen), A., 784.

Yarns, manufacture of, for obtaining effects of colour or lustre (N.V. NEDERLANDSCHE KUNSTZIJDEFABR.), (P.), B., 650. machine for (Sheldon), (P.), B., 649. treatment of (British Celanese and Ellis), (P.), B., 247. dryer for (HAAS), (P.), B., 138.

Yanganol, synthesis of (Borsche and Walter), A., 1192.

(o-Xylene, Me: Me=1:2; m-xylene, Me: Me=1:3; p-xylene, Me: Me=1:4.

Yarns, hank, dryers for (HAAS), (P.), B., 71. loose textile, drying machines for (Wood and Heymann), (P.), B., 649.

Yeast, occurrence of, in soils (STARKEY and HENRICI), B., 150. treatment and preparation of (HILDEBRANDT, FREY, and FLEISCHMANN Co.), (P.), B., 538.

manufacture of (Weber and Claassen), (P.), B., 501; (Harri-SON and INTERNAT. YEAST Co.), (P.), B., 666; (INTERNAT. YEAST Co. and Buhrid), (P.), B., 857; (Fleischmann Co.), (P.), B., 889; (AKTIEBOLAGET BÄSTA), (P.), B., 921; (VEREIN. MAUTNER'SCHE PRESSHEFE-FABR. GES. and FOULD-SPRINGER), (P.), B., 953.

from sugar fermentation (JANSEN), (P.), B., 568. regeneration of fats from wastes in (Bendecky), B., 953. manufacture and propagation of (DISTILLERS Co. and MEYER),

(P.), B., 792. propagation of (Balls), (P.), B., 847.

growth of (Peskett), A., 278.

and method of counting suspensions (Peskett), A., 699.

drying of (Balls), (P.), B., 921.

improving flavour of (Brown and Fleischmann Co.), (P.), B., 921.

electric charges on, and their influence on attenuation and flocculation (Stockhausen), B., 589.

oxidation-reduction potential of, and its media (Aurel and GENEVOIS), A., 993.

oxido-reduction and carbon dioxide production by enzymes of (Nilsson and Jansson), A., 993.

stabilisation of (SAUER), (P.), B., 538. acclimatisation of, to galactose (v. Euler and Jansson), A., 1114.

action of, on sugars rendered optically inactive (Fernbach, Schoen, and Mori), A., 279.

antineuritic concentrates of (KINNERSLEY and PETERS), A.,

inactivation of enzymes of, by cadmium and zine salts (Kostyt-SCHEV and MEDVEDEV), A., 379.

ergosterol of (Reindel, Walter, and Rauch), A., 241. nnsaponifiable matter of fat of (DAUBNEY and MACLEAN), A., $90\bar{3}$.

action of iodine on (Scharrer and Schwartz), A., 903. formation of lactic acid by (NEUBERG and KOBEL), A., 592. maltase of (ISAJEV), B., 89.

oxydoreductase in (Lebedev), A., 175.

utilisation of pentoses by (Abbott), A., 700. reductase of (v. Euler and Nilsson), A., 279.

carbon dioxide in nutrition of (ROCKWELL and HIGHBERGER), A., 903.

nutrient solutions for growing (RAETH), (P.), B., 793. proteases of (Grassmann and Haag; Grassmann), A., 794.

synthesis of torulin by (HAWKING), A., 796. autolysis of (Kaiin, Le Breton, and Schaeffer), (P.), B., 375.

fermentation with (HAEHN and GLAUBITZ), A., 378, 902. action of animal charcoal on (IVEKOVIĆ), A., 592.

action of surface-active materials on (Zeller), A., 592. importance of the surface of, in fermentation (RANKEN), B., 200.

effect of electromagnetic field on fermentative activity of (Benedetti), A., 1221. action of quinine compounds on fermentative activity of (Roxa

and Nicolai), A., 1222.

action of ferrous and manganous sulphates on respiration and fermentation of (HARPUDER), A., 589.

metabolism of (WARBURG), A., 1221.

for brewing, treatment of (HANSENA A.-G. and NATHAN), (P.),

bottom- and top-, effect of pre-treatment on properties of (FINK and v. EULER), B., 501.

fermentation (RATHKE and WINDISCH), B., 424.

rich in coproporphyrin, enzymes and co-enzymes in (v. Euler and Fink), A., 279. dry, production of (Hill, Givens, and Northwestern Yeast

Co.), (P.), B., 826. nutritive value of preparations of (Schittenhelm, Massatsch,

and Warnat), A., 374. pressed, manufacture of (Kusserow), (P.), B., 666. cleaning of molasses for manufacture of (Kusserow), (P.),

B., 921.

Yeast cells, strength of (SCHRYVER, THOMAS, and PAINE), B., 313. fermentation by (Abderhalden), A., 1113.

Yeast cells, influence of carbon monoxide and light on indophenol oxydase of (Keilin), A., 592.

determination of cytochrome in (v. Euler and Fink), A., 379; (v. Euler, Fink, and Hellström), A., 993.

Yeast extracts, manufacture of, free from bitterness (VER. SPIRITUS-FABR. IN DEUTSCHLAND), (P.), B., 857.

as supplement to gelatin in (HARTWELL), A., 72.

Yeast gum (KRAUT and EICHHORN; KRAUT, EICHHORN, and RUBENBAUER), A., 860; (HASHITANI), B., 567.

Yeast-juice, preparation of (HARDEN and HENLEY), A., 278. Yeast-nucleic acid, action of sodium carbonate on (CALVERY), A.,

determination of pentose in (HOFFMAN), A., 687.

Yohimba alkaloids. See under Alkaloids.

Yohimbenic acid, silver salt and derivatives of (HAIIN and Brandenburg), A., 471.

Yohimbine, formula of (STEDMAN), A., 579.

constitution of (WINTERSTEIN and WALTER), A., 1208. and its isomeride, and their salts (SCHOMER), A., 1097. production and determination of (CHEMNITIUS), B., 617.

ψ-Yohimbine, and its hydrochloride (KARRER and SALOMON), A., 64.

allo- and iso-Yohimbines, and their hydrochlorides and hydrates (HAHN and BRANDENBURG), A., 471.

alloYohimboaic acid, and its ethyl ester, and their hydrochlorides (HAHN and BRANDENBURG), A., 471.

Yohimbyl alcohol, and its salts (Schomer), A., 1097.

Yttrium, atomic weight of (Hönigschmid and v. Welsbach), A., 915.

are and spark spectra of (McDonald, Sutton, and McLay: McLennan and Liggett), A., 390. electric furnace spectrum of (King and Carter), A., 911.

spark spectrum of (Bowen and Millikan), A., 82.

Yttrium organic compounds:-

Yttrium nitrate, double salt of cocaine and (PACE), A., 265.

Zea mais, influence of sodium carbonate and calcium chloride on acidity of sap of (KARASIEWICZ), A., 798.

Zeeman effect (SOMMER; VAN GEEL; EPSTEIN), A., 83; (DAR-

WIN; V. WISNIEWSKI), A., 707. laboratory demonstration of (Meissner), A., 707.

for band spectra (KEMBLE), A., 1000.

Zein, solubility of (DILL), A., 582.

Zeolites, regeneration of (DUDEN and SCAIFE & Sons Co.), (P.), B., 206.

apparatus for (Green and General Zeolite Co.), (P.), B., 382.

hydrogen-ion concentration in (Sweeney and Riley), B., 94. from leucites near Rome (CAGLIOTI), A., 1050.

of the natrolite group (CAVINATO), A., 955.

precipitated, manufacture of (Kreigsheim, Valighan, and Permutit Co.), (P.), B., 842.

in soils, value of iron in (SMOLIK), B., 308.

Zieria macrophylla, essential oil of (Penfold), B., 28.

Zierone, and its derivatives (Penfold), B., 28.

Zinc, manufacture of (Bodenstein), B., 447; (Krupp Gruson-

WERK), (P.), B., 448. extraction of (F. A. and G. Gruessner), (P.), B., 194.

from ores (Krupp Grusonwerk), (P.), B., 415; (Faivre), (P.), B., 658.

from slags (Alberti, Thielmann, Begas, and Albert), (P.), B., 606

electrochemical extraction of, from ores (Mackay), (P.), B., 115. acid extraction of, from ores (STEVENS, NORRIS, and WATSON), (P.), B., 560.

recovery of, from dross (American Smelting & Refining Co.). (P.), B., 448.

from chloride and sulphate solutions (Duisburger Kupper-HUTTE), (P.), B., 784; (MATTENKLODT, SCHRAMM, and

Duisburger Kupperhütte), (P.), B., 785*. from ores (Electrolytic Zinc Co. of Australasia), (P.), B.,

from residues (Betterton and Amer. Smelting & Refining Co.; Pomeroy), (P.), B., 114.

and its compounds (AMER. SMELTING & REFINING Co.), (P.), B., 225*.

Zinc, electrolytic recovery of, purification of solutions in (Stevens, Norris, and Watson), (P.), B., 943.

from pyrites calcination residues (PAWECK and WENZL), B., 911.

pure (CYR), B., 390.

apparation for purification of solutions of (CAMPBELL), (P.), B.,

properties of refractories in metallurgy of (Wheeler and Kuechler), B., 750.

electric smelting of (Tharaldsen), (P.), B., 302.

plastic deformation and tensile strength of (SCHMID), A., 99. spectrum of (SAWYER and BEESE), A., 82.

absorption spectrum of (Mohler and Moore), A., 917. arc spectrum of (SUR), A., 390; (BACK), A., 802.

instantaneous spectrum of (NAGAOKA, NUKUJAMA, and FUTA-GAMI), A., 911.

second spark spectrum of (LAPORTE and LANG), A., 1118.

impact fluorescence of (Winans), A., 810. resonance radiation of (Soleillet), A., 177.

effect of gelatin on potential of, in zine sulphate solution (Isgarischev and Titov), A., 832. polymorphism of (Petrenko), A., 615.

coating of aluminium with (HEWITSON and EASTMAN KODAK Co.), (P.), B., 491.

coating of iron wire with (MIDLAND MANUF. Co.), (P.), B., 490. coatings, micro-structure of (Finkeldey), B., 488. crystals, thermo-electric effect in (LINDER), A., 505.

molten, surface tension of (BIRCUMSHAW), A., 719. vapours, condensation of (AARTS), (P.), B., 337.

on heated metals (Gelsenkirchener Bergwerks and Caspari), (P.), B., 223.

diffusion of, through copper (DUNN), A., 105. and its oxide, equilibria of, with earbon oxides (Theis), B., 78.

colloidal (Engelhardt), A., 410.

toxicity of (Heller and Burke), A., 900.

excretion of, in urine and faces of man (DRINKER, FEHNEL, and Marsn), A., 478. Zine alloys suitable for easting (New Jersey Zine Co., Peirce,

and Anderson), B., 115. with aluminium, transformation of (Fraenkel and Spanner),

B., 282. and with copper, tensile tests on crystals of (ELAM), B., 558.

with bismuth, cadmium, and lead, electrolysis of (KREMANN and Tröster), A., 25.

with cadmium and copper, constitution and properties of (JENKINS), B., 817.

cobalt, iron, and nickel, electrodeposition potentials of (GLAS-STONE), A., 422. with copper (Tammann and Heusler), A., 196.

structure of (Bauer and Hansen), B., 939.

Röntgen-ray study of (PHILLIPS and THELIN), A., 1013. hardness and potential of (BAUER and VOLLENBRUCK), B., 335. equilibrium of (JITSUKA), A., 1141.

with copper and manganese (Heusler), A., 313.

with manganese (ACKERMANN), A., 627. with silver, transitions of (Petrenko), A., 938.

Zinc bases :-

Zinctetrammine fluoborate (WILKE-DÖRFURT and BALZ), A.,

Zinc compounds, co-ordinated, optical activity of (MILLS and Gotts), A., 149. as driers (Wilborn), B., 755.

exerction and storage of (DRINKER, THOMPSON, and MARSH), A., 482.

effect of, on reproduction and growth of albino rats (Thompson, Marsh, and Drinker), A., 482.

Zinc salts, compounds of sodium azide with (Vournazos), A., 842.

inactivation of enzymes of yeast by (Kostytschev and MEDVEDEV), A., 379.

ingestion and exerction of (DRINKER, THOMPSON, and MARSH), A., 992.

Zinc borate, anhydrous (De Carli), A., 325.

carbonate, production of (LAURY), (P.), B., 877. chloride, precipitation of, from solutions (ORKLA GRUBE-

AKTIEBOLAG), (P.), B., 555. activity of, in concentrated solutions (Foxtox and Shutt), A., 1027.

ferrite, temperature of formation of, from its solid constituents (Guillissen and Richard), A., 1037.

32

Zinc titanium fluoride, fluosilicate, and fluostannate, crystal structure of (Hassel and Salvesen), A., 1014.

hydroxide, crystalline, equilibria of, with solutions of ammonium and sodium hydroxide (Dietricu and Johnston), A., 731.

and oxide, equilibria of, with sodium hydroxide and zincate (E. and J. MÜLLER and FAUVEL), A., 518.

oxide, manufacture of (FILMER), (P.), B., 370; (New Jersey ZINC CO., SINGMASTER, BREYER, and BUNCE), (P.), B.,

and its recovery from furnace gases (CREGAN and AMER. SMELTING & REFINING Co.), (P.), B., 632.

gaseous reduction of (MAIER and RALSTON), B., 680. reduction of mixtures of copper oxido and (Rogers), A., 737. compound of chromium trioxide and, as a catalyst (Synthetic AMMONIA & NITRATES and SMITH), (P.), B., 828.

treatment of, for rubber compounding (NEW JERSEY ZINC Co., BREYER, BUNCE, and WEIKEL), (P.), B., 107.

sclenide, crystal structure of (Zachariasen), A., 400. sulphate, crystal structure of (Westenbrink), A., 297.

purification of solutions of (STEVENS, NORRIS, and WATSON), (P.), B., 481.

magnesium sulphate, hydrated, crystal structure of (Westen-BRINK), A., 400, 417.

sulphide, decay of phosphorescence of (Taylor), A., 187. rôle of water in photochemical decomposition of (Weiser and GARRISON), A., 841.

containing bismuth, copper, or uranium, emission spectra of

(KUTZNER), A., 1121. as catalyst (I. G. FARBENIND.), (P.), B., 541.

simultaneous precipitation of copper sulphide and (BALAREY, GANTSCHEV, and SREBROV), A., 925. See also Lithopone.

telluride, crystal structure of (Zachariasen), A., 96.

Zinc organic compounds :--

Zinc chloride, complex etherates of acetic acid and (MEER-WEIN), A., 836.

ethyl, compound of, with tetrapropylammonium iodide (Hein and Secitz), A., 138.

Zinc detection, determination, and separation :detection of (BENEDETTI-PICHLER), A., 331.

detection of, with diphenylamine acctate (CONE and CADY), A.,

detection of, with mercurithiocyanates (Montequi), A., 436. determination of, electrolytically, in presence of sulphuric acid (Belasio and Mellana), A., 953.

determination of, electro-volumetrically (SANDER and PFUNDT;

Reissaus), A., 126. determination of, by means of membrane filters (Awe), A., 639. determination of, volumetrically (HAHN and HARTLEB), A., 745.

determination of, with potassium ferrocyanide (Cone and Cady), A., 331; (Kolthoff), A., 535.

determination of, in pure aluminium (Bohm), B., 605.

determination and separation of (HAUN and VIEWEG), A., 639. determination and separation of, by means of 8-hydroxyquinolino (Berg), A., 745. Zinc blende. See Blende.

Zinc dust, apparatus for production of (FINN and FINN METAL Works), (P.), B., 682.

cataphoresis of, in gelatin sols and gels (FREUNDLICH and ABRAMSON), A., 931. distillation of cholesterol with (FANTL and KABOS), A., 53.

Zinc-gold slimes, treatment of (MEYER), (P.), B., 682.

Zinc ores, treatment of (Job), B., 415; (Gepp, Hey, Rigg, STEVENS, WILLIAMS, and ELECTROLYTIC ZING Co. OF Australasia), (P.), B., 561*.

furnace for (ROITZHEIM and REMY), (P.), B., 658. oxidised, treatment of (EDWARDS and DURANT), (P.), B., 81*

oxide and sulphide, treatment of, and their mixtures with lead ores (Cornould), (P.), B., 586. sulphide, bituminous, treatment of (I. G. FARBENIND.), (P.), B.,

Zinc waste, treatment of (Bury), (P.), B., 942. Zinc white, manufacture of, from metallic zinc (Beringer), (P.),

B., 947. Zincibenzoylpyruvic acid, brucine salt (MILLS and GOTTS), A., 149.

Zinciferous materials, treatment of (New Jersey Zinc Co.), (P.), B., 682.

Zingerone, homologues of (Nomura and Tsurumi), A., 1078. Zingiber officinale (Philippine ginger), constituents of (VALEN-ZÜELA), Ä., 387.

Zircon, crystal structure of (Binks), A., 190.

Zirconium (DE BOER), B., 941. are and spark spectra of (McDonald, Sutton, and McLay), A.,

390; (Kiess), A., 802. electric furnace spectrum of (KING and CARTER), A., 911.

spark spectrum of (Bowen and Millikan), A., 82. atomic volume of (VAN ARKEL), A., 1131.

precipitation of, on incandescent bodies (N.V. Philips' Gloei-LAMPENFABR.), (P.), B., 16.

sintering of (DAVIS and METROPOLITAN-VICKERS ELECTRICAL Co.), (P.), B., 753.

Zirconium compounds, manufacture of (KINZIE and TITANIUM ALLOY MANUF. Co.), (P.), B., 168, 252.

complex, difference of stability of hafnium compounds and (DE BOER), A., 949.

Zirconium chromate, basic (Krishnamurti and Dey), A., 121. zine fluoride, crystal structure of (HASSEL and SALVESEN), A., 1014.

dioxide (zirconia), crystal structure of (YARDLEY), A., 190; (DAVEY), A., 1013.

composite of silica and (KINZIE and TITANIUM ALLOY MANUF. Co.), (P.), B., 531.

refractories. See under Refractories.

oxychloride, compounds of alkali chlorides with (Chauvener and Duchemin), A., 1156.

phosphate, treatment of (DE BOER and N.V. PHILIPS' GLOEI-LAMPENFABR.), (P.), B., 365*.

Zirconium organic compounds :-

Zirconium chloride, compounds of, with organic compounds (Jantsch), A., 147. sulphate, double salt of cocaine and (PACE), A., 265.

Zirconium separation :separation of, from hafnium (VAN ARKEL, DE BOER, and N.V. PHILIPS' GLOEILAMPENFABR.), (P.), B., 331*, 749*; (COSTER, HEVESY, and N.V. PHILIPS' GLOEILAMPENFABR.), (P.), B., 370; (N.V. PHILIPS' GLOEILAMPENFABR.), (P.), B., 482; (DE BOER; DE BOER and KOETS), A., 954.

separation of, from titanium and thallium by precipitation by pierie acid (Speter), B., 255.

Zymase, activation of, in seeds (ZALESKI, NOTKINA, and PISAR-SHEVSKI), A., 1226.

in green tobacco extracts (Fodor and Cohn), A., 592.